

# AFV 140

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## modeller



## ONE MAN ARMY

ANTONIO MARTÍN TELLO'S EPIC 1:35 DIORAMA



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**Between 13 and 19 August 1944, the small French town of Argentan became one of the key points in the final phase of the Battle of Normandy.**

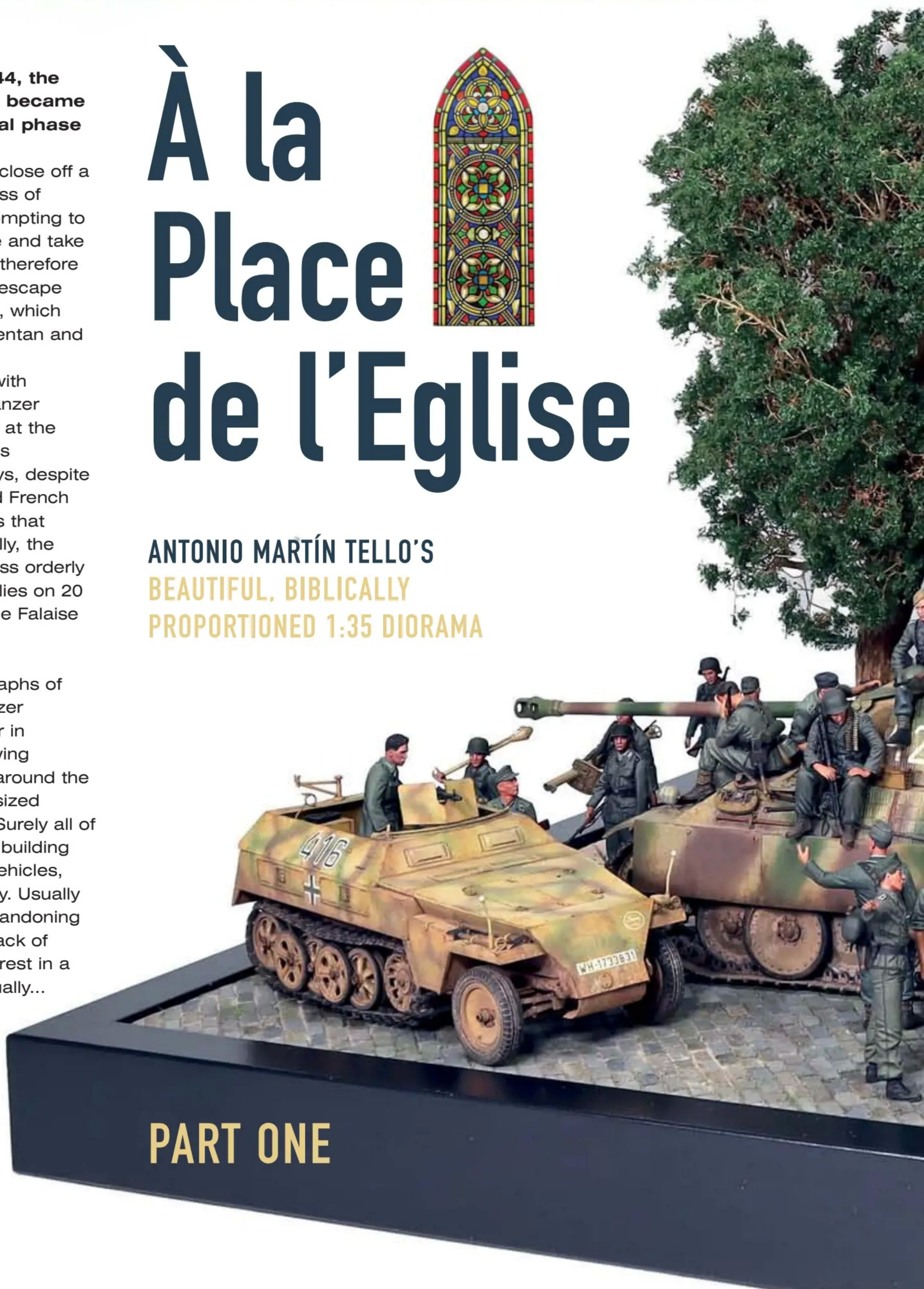
Its capture by Allied troops would close off a pocket that would trap a large mass of German soldiers and materiel attempting to retreat eastwards, cross the Seine and take refuge on its eastern bank. It was therefore vital for the Germans to keep this escape route open for as long as possible, which meant holding towns such as Argentan and Chambois on their southern flank. Among the German units tasked with holding the area was the 116th Panzer Division, whose Panther Regiment at the time was I./PzRgt 24. The Germans managed to hold out for a few days, despite several attempts by American and French troops and artillery bombardments that destroyed much of Argentan. Finally, the Germans withdrew in a more or less orderly manner and the town fell to the Allies on 20 August 1944. On the same day, the Falaise pocket was closed.

Inspired by some famous photographs of several Panthers of the 111th Panzer Brigade taken by a Kriegsberichter in Lorraine in September 1944, showing German soldiers huddled on and around the tanks, I decided to tackle a large sized diorama depicting such a scene. Surely all of us modellers have had dreams of building large dioramas involving several vehicles, many figures and complex scenery. Usually reason prevails and we end up abandoning these ideas for obvious reasons: lack of space, exhaustion and loss of interest in a long and monothematic work. Usually...

# À la Place de l'Eglise



**ANTONIO MARTÍN TELLO'S  
BEAUTIFUL, BIBLICALLY  
PROPORTIONED 1:35 DIORAMA**



**PART ONE**







My first idea was to have two or three Panthers loaded with soldiers. That was the only thing that was clear to me at the beginning. I approached the project as a long term work, where each model and each group of figures had to be completed before the next one would be started. It was also my intention to run it in parallel with other more 'normal' projects. In this way I wanted to avoid the feeling of not finishing anything and that the diorama would drag on without any visible progress.

Although I had an initial basic idea, the layout of the vehicles and figures, the actual set design would be left for the end, taking into account the size of the set and the harmonious arrangement of all the elements. Looking back, it is curious that the 'psychological' planning was almost as important as the 'modelling'. In the end there were two Panthers and a smaller vehicle to add variety. The diorama depicts a moment during the battle for Argentan. In the early hours of the morning, a handful of Panthers from I./PzRgt 24. gather near a church in the south of the town.

Their intention was to advance a few more kilometres south and set up a defensive position in anticipation of the next American assault. They are backed up by an infantry unit that has assembled all its available men and materiel for what is likely to be their last action before attempting to retreat eastwards. A team from the 116th Panzer-Aufklärungs-Abteilung arrives aboard their SdKfz 250 with up to the minute information on enemy movements and positions. A senior officer of the 116th Panzer, together with

officers of I./PzRgt 24 and the infantry unit, listen to the report and study the disposition of their men and vehicles as the soldiers prepare to move. The more fortunate of them have places on Panthers, which will bring them closer to the combat zone and save them from having to walk the three or four kilometres with all their equipment on their backs. In any case, they must hurry. Allied fighter-bombers could appear at any moment and the concentration would be an easy target for the pilots. They had to move fast, spread out and take up positions as advantageous as possible.

--

#### I./PzRgt.24

In my "stash" there were both Panther kits of the early Ausf. G early and the late Ausf. A. While researching which units might have operated A and G at the same time on the Western Front, the first battalion of the Panzerregiment 24 (I./PzRgt.24 from now on) came up. It also turned out that this unit had some very interesting features, including the modification of their Panther. Reading up on the unit's history, I found out that it took part in the defence of Argentan in August 1944, and the historical framework for the action depicted in the diorama was set.

The 24. Panzer Division was formed in November 1941 from the 1. Kavallerie Division, a 'traditional' cavalry unit that had participated in the Polish and French campaigns. Virtually destroyed at Stalingrad, it was reconstituted in France in 1943. Most of the new division was sent back to the Eastern Front in the second half of 1943, except for one of its armoured battalions, I./PzRgt.24, which remained in France waiting to be equipped and trained

with new Panthers. This process was quite lengthy, lasting throughout the first half of 1944, and was not completed until June, shortly after the Allied landings in Normandy. In view of the situation, the refurbished and fully equipped I./PzRgt.24 was sent to the Normandy front and assigned to 116 Pz.Div. instead of the division's own Panther battalion (I./PzRgt.16), which had been detached from the division to be used as a 'strategic reserve'.

The Panthers of I./PzRgt.24 made their combat debut on 30 July in the Tessy area. They fought in Normandy until the end of August, when the survivors withdrew to the east bank of the Seine before the Falaise pocket was closed. Over the next few months they continued to fight in the Aachen area and on the western border of Germany.

I./PzRgt.24 retained many of the traditions of the German Cavalry, such as the use of yellow as waffenfarbe (the service colour used for shoulder boards and other uniform details) instead of the pink of the Panzerwaffe, the designation of Schwadron (squadron) instead of Kompanie (company) in its internal organisation, or the rank of 'Rittmeister' instead of 'Hauptmann' for its captains. Although these peculiarities were officially phased out, many of its members, especially the more veteran ones, retained them throughout the war.

I./PzRgt.24 also continued to use the 24. Panzer Division's symbol, the famous leaping horseman, although it was never officially reattached to its original division. As far as is known, they never used the symbol of the 116th Panzer Division (the galloping greyhound).







The workshops of I./PzRgt.24 modified their Panthers in such a way that it is relatively easy to distinguish them in the French campaign of 1944. While it is not certain that all of these modifications were applied to absolutely every Panther, some of the unique characteristics of the unit are as follows:

- Relocation of the gun cleaning brush container tube from the left side to the rear, on the edge of the engine cover.
- Addition of two spare wheels, one on each rear side of the turret. These wheels were attached with three bolts welded to the sides of the turret.
- Addition of four spare links on each side of the turret. These links were attached with the same hooks as the standard spare tracks on the rear side of the hull.
- Addition of brackets for two 'jerrycans' on the rear plate, each between the exhaust pipes and the rear luggage boxes.
- Some have a non-standard guard on the top of the turret, covering the area between the mantle and the turret roof. This guard appears larger than normal.

As for the paintwork, some of them show a camouflage with large green and brown bands that leave little of the dark yellow visible, sometimes in the form of almost hard-edged straight lines. In most cases, however, no particular camouflage is visible. The German cross (Balkenkreuz) is also missing in most cases. On some examples, the jumping horseman insignia is painted on the right side of the front and on the right rear luggage box.

On the sides of the turret the numerals were painted in white following the standard German Army practice XYZ (X = Kompanie/Schwadron (company), Y = Zug (platoon), Z = vehicle). On the rear of the turret, to the left of the hatch the platoon and vehicle numbers (YZ) were painted and on the hatch a white symbol denoting the Kompanie/Schwadron: 1 vertical bar, 2 central dot, 3 triangle, 4 horizontal bar. In addition, some sources indicate that the headquarters Panthers sported a cross. As far as I know, there are no photos of either the cross or the triangle.





# PANTHER Ausf.G

It is the Tamiya reference 35170. Although very easy to assemble and correctly dimensioned, the model shows its age (it was released in 1993).



For the more demanding modeller it probably lacks detail and finesse compared to some of the more recent offerings. In any case, it had been sitting in my cupboard for many years and this project gave me an excuse to build it. I used quite a few add-ons to detail it: RB models gun barrel, Aber machine guns, FC Modeltrend spare wheels, Cavalier Zimmerit (another classic), Aber and Eduard photoetched parts and Friumodel tracks. Finally, some grey parts are leftovers from a Dragon Panther. In general, the Dragon parts are finer, you can see the years that separate one kit from the other.

After a coat of grey primer, I started

airbrushing the base coat and the camouflage. I used acrylic paints from Mission Models. The colours used were the 'standard' ones proposed by the brand for German camouflage (Dunkelgelb RAL 7028 MMP-011, Olivegrün RAL 6003 MMP-009 and Rotbraun RAL 8017 MMP-12). Following my taste for lightening colours I added Resedagrün RAL 6011 (MMP-018) to the green, and my own dark yellow base colour to the brown.

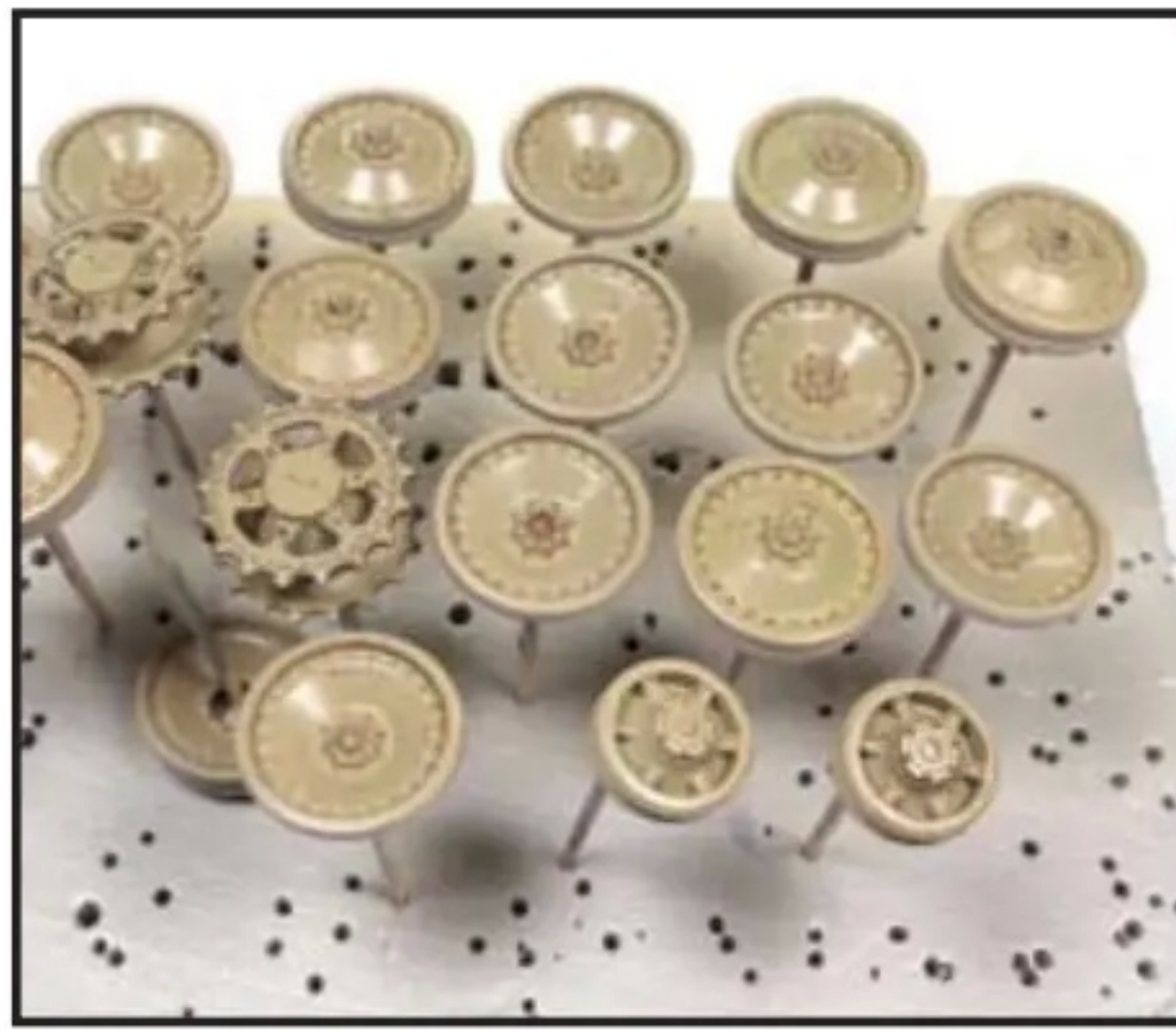
After unsuccessfully searching for numbers to use on my leftover decal sheets, I decided to paint the numerals by hand and created some templates on the computer to guide me in font and size. The insignia

of the jumping horseman are decals for which I used the Microset/Microsol routine. A general coat of Tamiya gloss varnish leaves the model ready for weathering.

After a couple of filters of very diluted 502 Abteilung 'faded dark yellow' oil paint, I started to work on the chipping. First of all, I made the paint wear, as if the green and brown camouflage colours had been removed and let the yellow base colour show through. On the latter I also painted the chipping with the lighter colour. Then, with Vallejo's 'flesh shadows 70.343' I make the chipping and scratches that simulate the appearance of the base primer. Finally, the bare metal chips are made with Vallejo's 'black brown German camouflage 70.822'. In many cases the chips are 'concentric' and get smaller and smaller, i.e. some are painted over the previous ones to represent the different depth of the damage in the paint. They must always be small, very small (they are not visible from a distance). The use of the brush gives you full control over where and how to paint them.

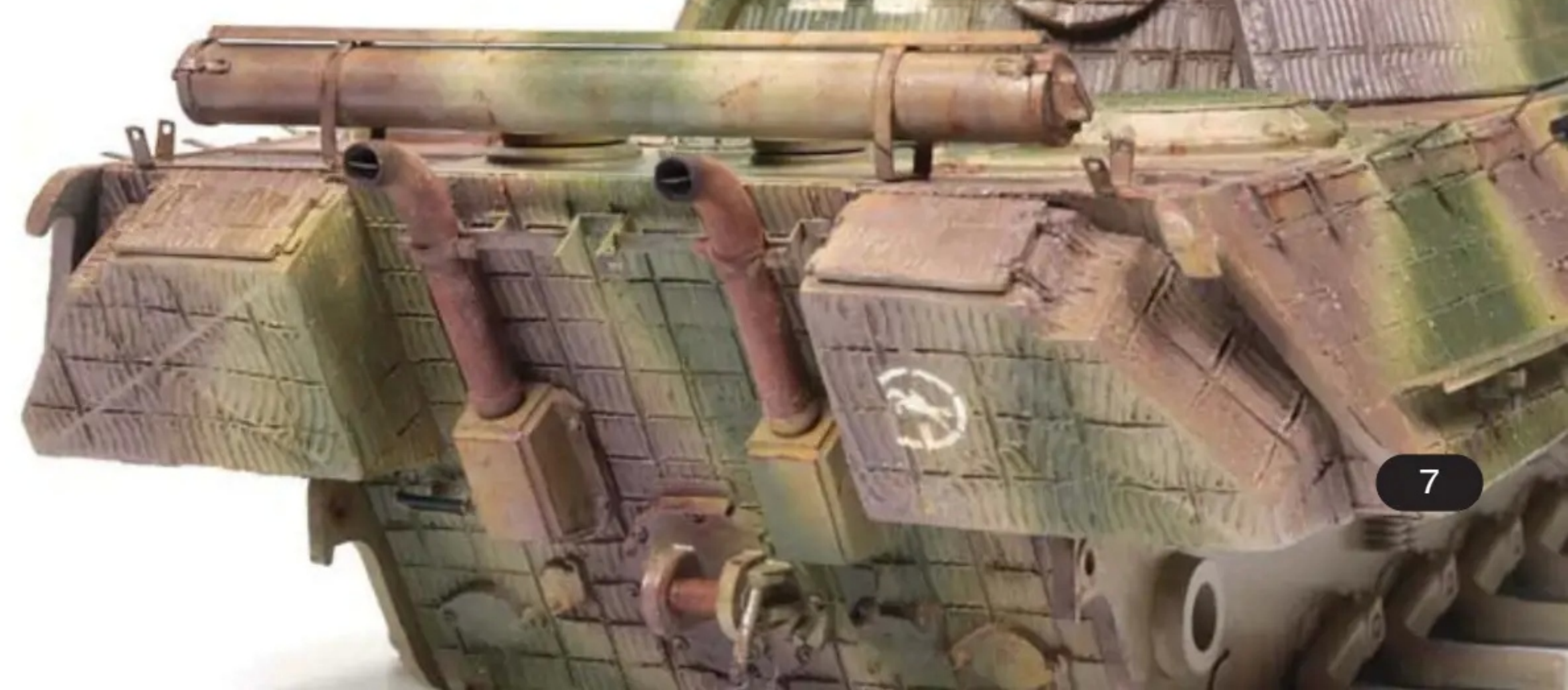






Then I apply the oils. In a first stage I use the 'faded dark yellow' mentioned above, together with ochres, greys, whites... with the idea of creating tonal variations and a worn appearance of the base colour. I take a little oil paint with the tip of a fine brush and melt it in a specific place, in a very controlled way. The work is laborious, even tedious, but in this way you have total control over the place and the intensity of the application.

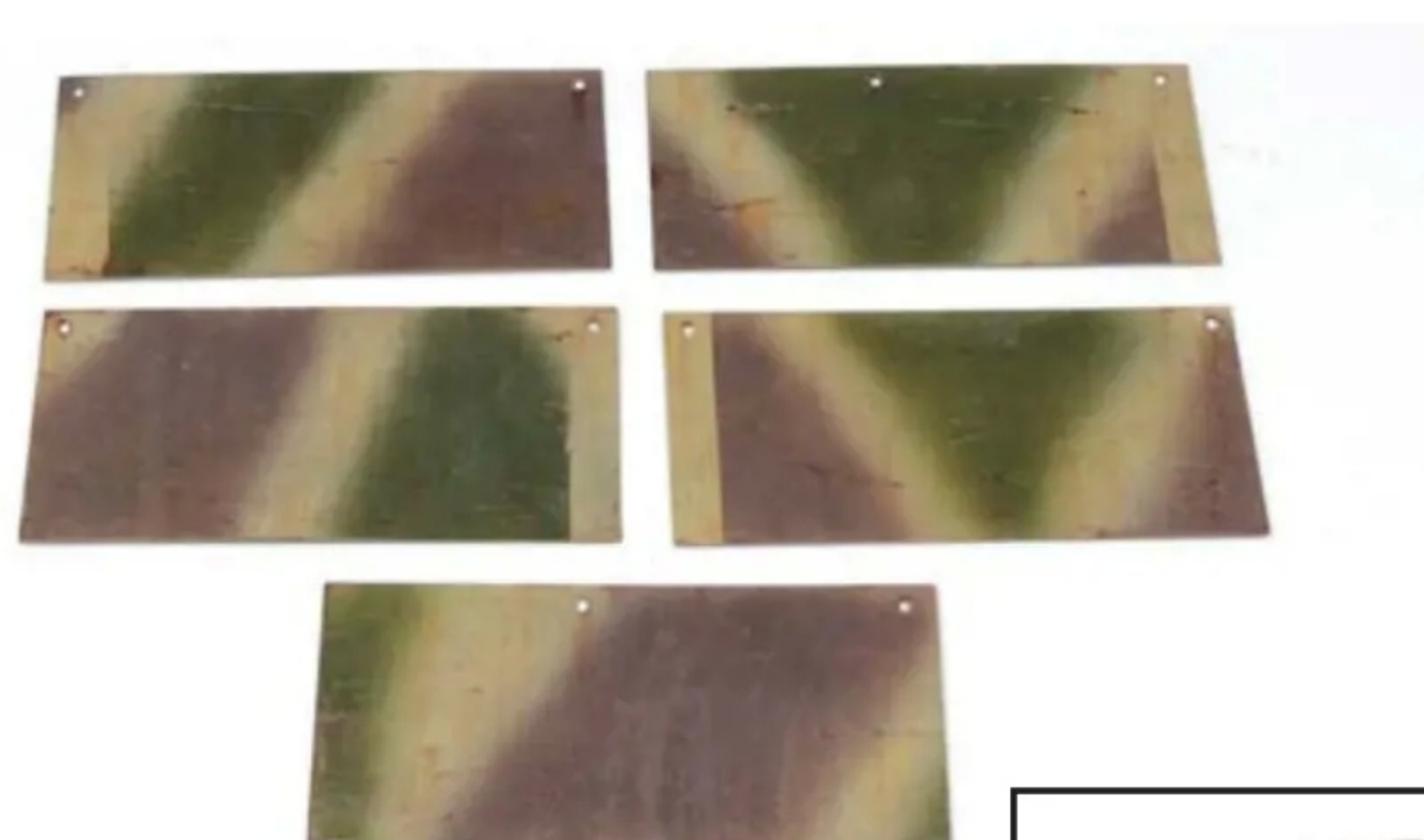
In the second stage I apply oil colours in dark and rusty tones. I use them to make 'streaks' on the vertical surfaces and diffuse irregular stains on the horizontal ones. It is difficult to work on the Zimmerit, so on these surfaces I have been content to try to represent tonal variations and the wear of the paint.







After the oil treatment, I painted all the details that differed from the base colour: tools, fire extinguisher, exhaust pipes... For the latter, I used both oils and pigments, avoiding a uniform look and tapping with a small stiff-bristled brush to create small rust spots and patches. Some of the accessories, such as the towing hooks and the ends of the towing ropes, were particularly battered. Vallejo's "black-brown German Camouflage 70.822" was used extensively here, even dry-brushed, and pinwashes of rust-coloured oils were also used to give a more severe worn look.

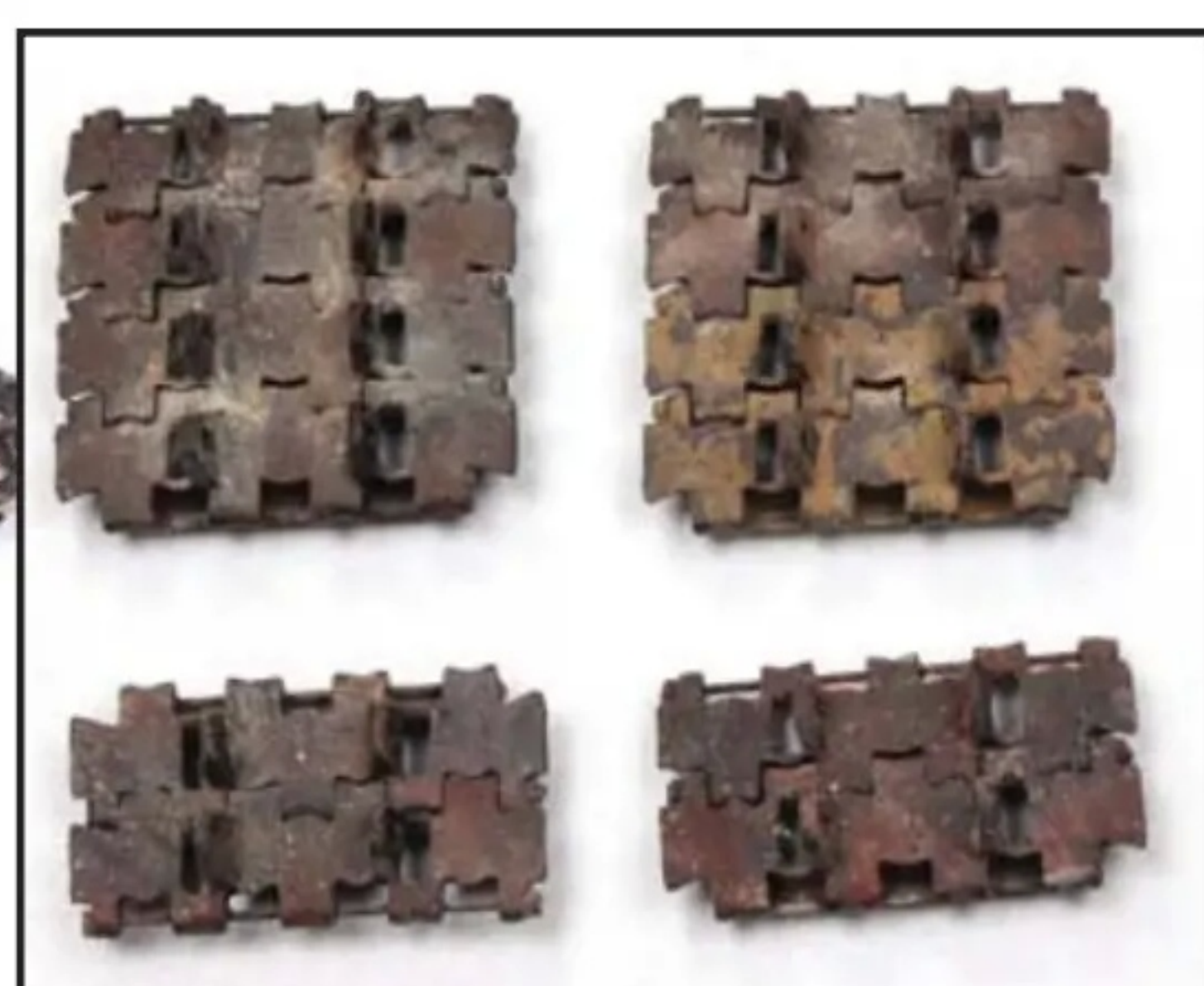
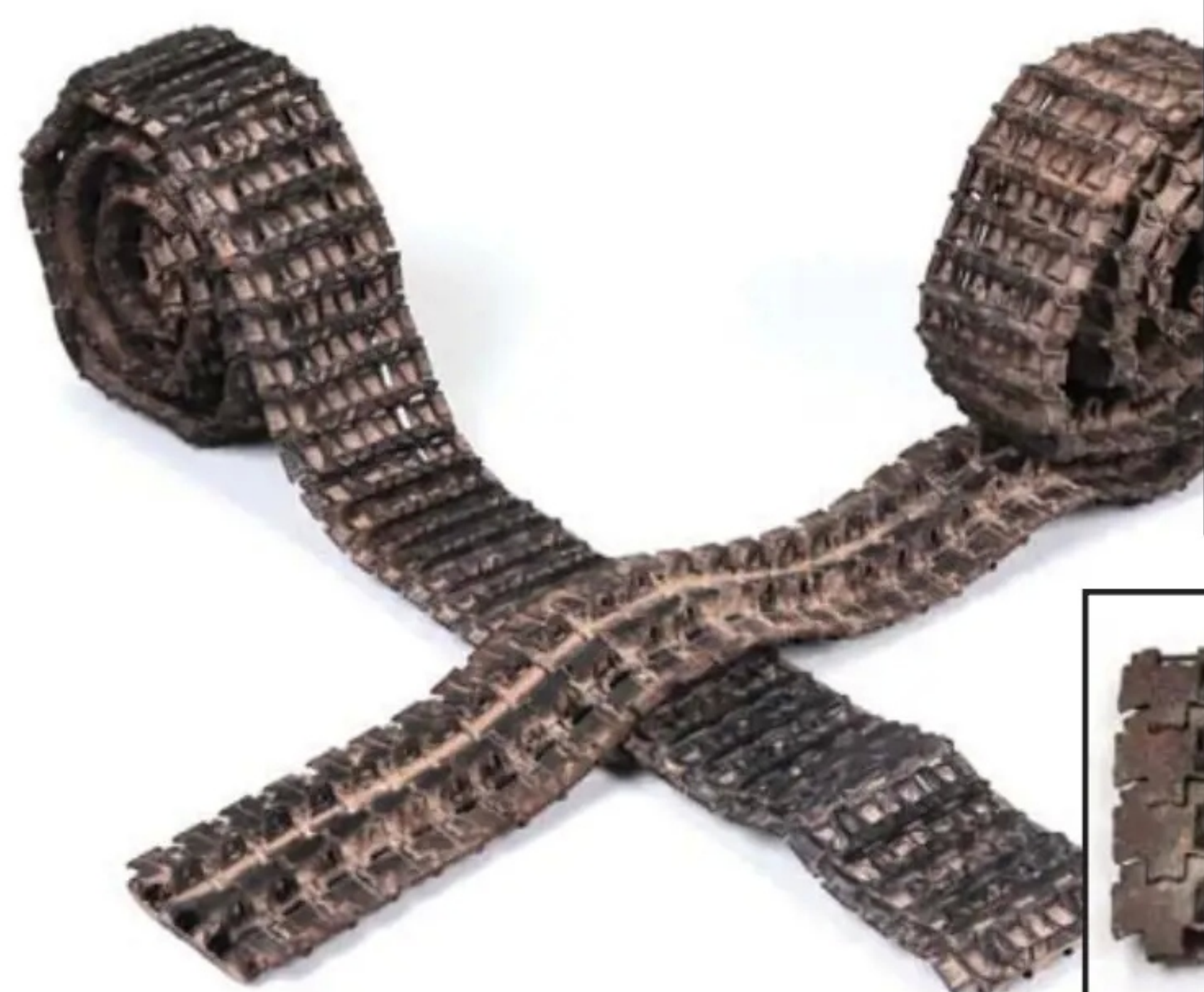


On the spare track sections, some links were painted as if they had originally been painted dark yellow, and then this paint flaked off. They were also "abused" with oils and pigments.

The last weathering step was the outlining around the details, recesses and lines with very diluted black oil. This enhances the volumes and makes the details stand out. Finally, an overall coat of matt varnish (Vallejo Premium airbrush 62.062) unifies the surface appearance of the model and makes it ready for dirtying.

As usual, I used pigments for all the dirt. In the lower and running gear areas, I applied small amounts with the brush and soaked them in a mixture of enamel thinner and fixer. Once dry, I retouched these areas, removing here and adding more pigment there. My advice is to always work in limited areas, with a small brush, always looking for variety and avoiding a uniform look. You have to play with pigments of different shades and with more and less build-up. I also made some splashes with a paste of pigments mixed with solvent, projected with a stiff bristle brush. However, this area is mostly covered by the wheels and side skirts.

The wheels themselves were also covered with pigment, but not as much. I had previously polished the teeth of the sprockets, the rim of the idler wheel and the outer edges of the inner wheels with a smudger impregnated with gunmetal pigment. The tracks were first primed in black and then generously "painted" with a suspension of pigments in thinner. Once dry, the tracks were rubbed down to clean the exterior details and retain the pigment in the recesses. The tracks were then rubbed again with a smudger and gunmetal pigment.





# Ausf G



The wheels, tracks, side skirts, tow ropes and spare track links were now placed in their final positions. For the latter, the retaining pins and PE chains were added and painted. The exterior details of the tracks were touched up with a soft pencil to give them a more metallic look.

In the horizontal areas I applied the pigments "dry" with a fine brush, simulating accumulations around the details. Especially on the mudguards I tried to get the pigments to accumulate in the corners and nooks and crannies, removing the excess from the flat areas by wiping with a damp finger. With the addition of an RB antenna, the Panther is ready







# PANTHER

## Ausf.A

This is Meng's TS-035 and is a 'late' version of the A model and therefore very suitable for the Normandy campaign. It is an excellent and modern kit. Unlike the Tamiya kit, it shows the 'state of the art' of today's injection moulded plastic kits. It comes with many extras, such as the photo-etched skirts, another photo-etched sheet with the grilles and some basic parts, link by link tracks, turned aluminium barrel, transparent periscopes... The kit is not difficult to assemble and I think that out of the box it will make an excellent replica of the famous German tank. However, as it could not be otherwise, in addition to the modifications of the I./PzRgt 24, I could not resist adding some details.

The first is practically 'obligatory': the Zimmerit. Due to the production dates, it is practically impossible to find a 'late' Panther A without this anti-magnetic paste, so in my case I used a set of resin sheets from the Polish brand Atak (ref. 35064), specially designed for this kit and reproducing the pattern applied at the M.A.N. factory. To fix them to the model, I used normal plastic glue in its thickest version, which gave me a few seconds to position the parts correctly before gluing them permanently.

I then used thin liquid cement, added by capillary action, to make sure the panels were perfectly glued all the way to the edge. I also replaced the tracks, as I was unwilling to glue the two hollow teeth per link that Takom suggests as separate parts. I looked for a cheap replacement and found the Bronco ones (ref AB3540) which, without being a wonder, do the job. I glued the links with liquid cement, because although the manufacturer says they are articulated, I didn't think they were. Finally, I used photo-etched parts from various sources, but especially a fairly complete set from ET Models (ref. E35-114). I also used some spare links from Friumodel, left over from the Panther G model.

As this is a command vehicle (Befehlspanther), I added some external modifications typical of this version, such as the antenna on the turret and the 'umbrella' antenna on the engine cover, with their corresponding bases, and the plugging of the MG hole in the gun mantle, as this gun was removed to make room for a map board. The MG34 on the glacis was installed in its anti-aircraft position in the commander's cupola ring.

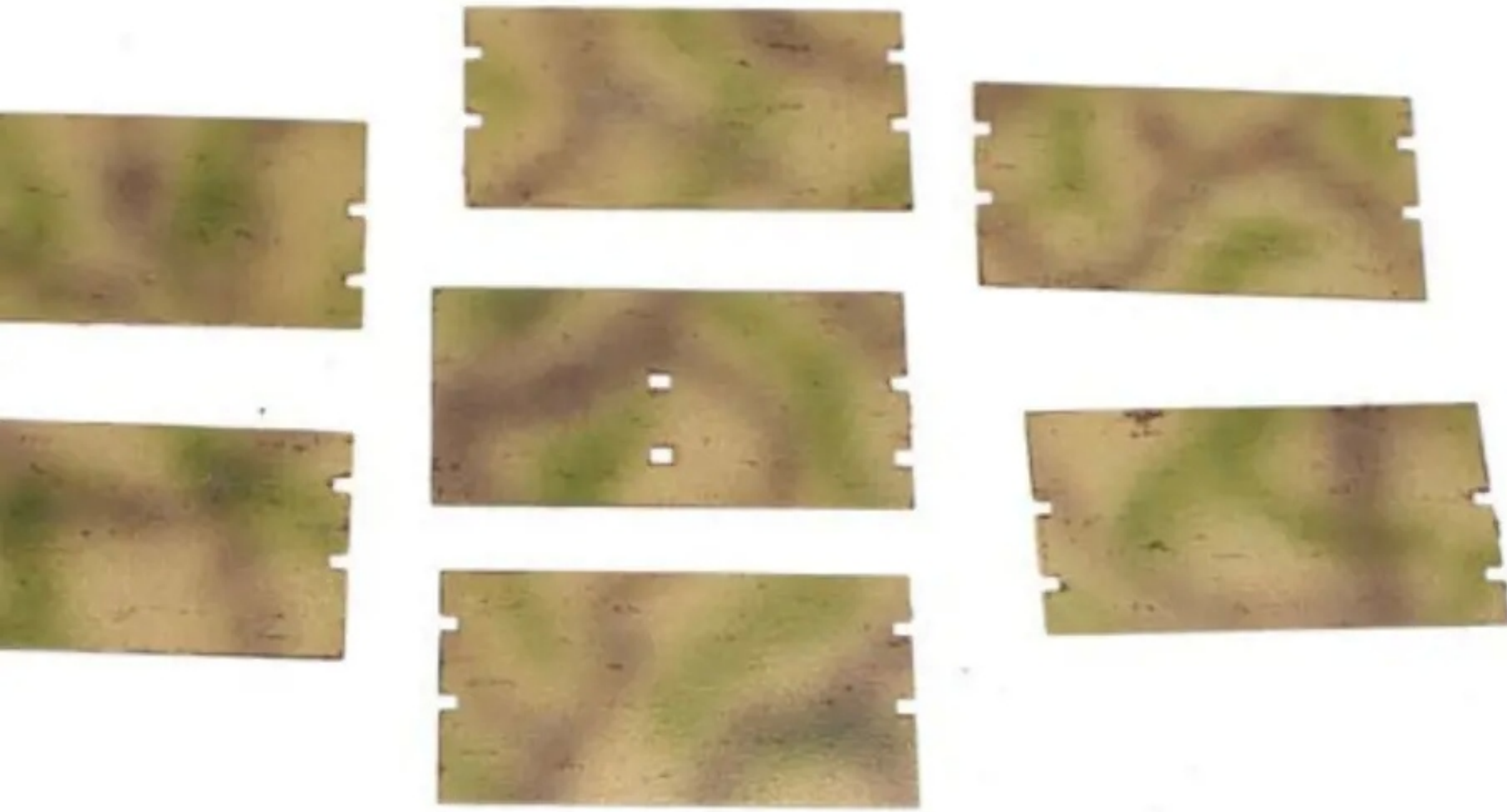






The painting process for the Panther A is very similar to that of the Ausf. G. I chose a different camouflage scheme to add variety to the scene, opting for a Normandy typical pattern with irregular faded lines of olive drab and reddish brown on a dark yellow base. The specific colours were the same from the Mission Models range as used on the Panther G. Again, I hand-painted the turret numbers. In this case they correspond to the Assistant Commander's tank of I./PzRgt 24, 102, and therefore, as a HQ vehicle, it has the cross on the rear hatch of the turret

As per the Panther G model: acrylic gloss varnish (Tamiya X-22), filter with 'faded dark yellow' oil paint from 502 Abteilung, chipping (paint wear, red primer and bare metal), discolouration and tonal variations with oils, outlining and finally dirtying with pigments











## SdKfz 250/1

As an accompanying vehicle for the Panthers, I chose a small SdKfz 250/1 half-track, which was widely used by the reconnaissance units of the Panzer divisions. The model is a reference labelled Gunze-Sangyo (ref G-743), but it is an obvious mixture of old sprues from this Japanese brand and more modern and refined ones from Dragon.



In my box were some instructions from Gunze for assembling the /5 version, as it is labelled on the box, and others from Dragon for making the /1, including a rather large photo-etch sheet, all corresponding to reference 6427. All the parts needed to make this last version, the basic personnel carrier version, are in the box, so I decided to assemble this variant. I am not sure if the contents of the box of my kit is the standard one, as I bought this model second hand from another modeller, and this person may have added some extra parts.



# Auf A

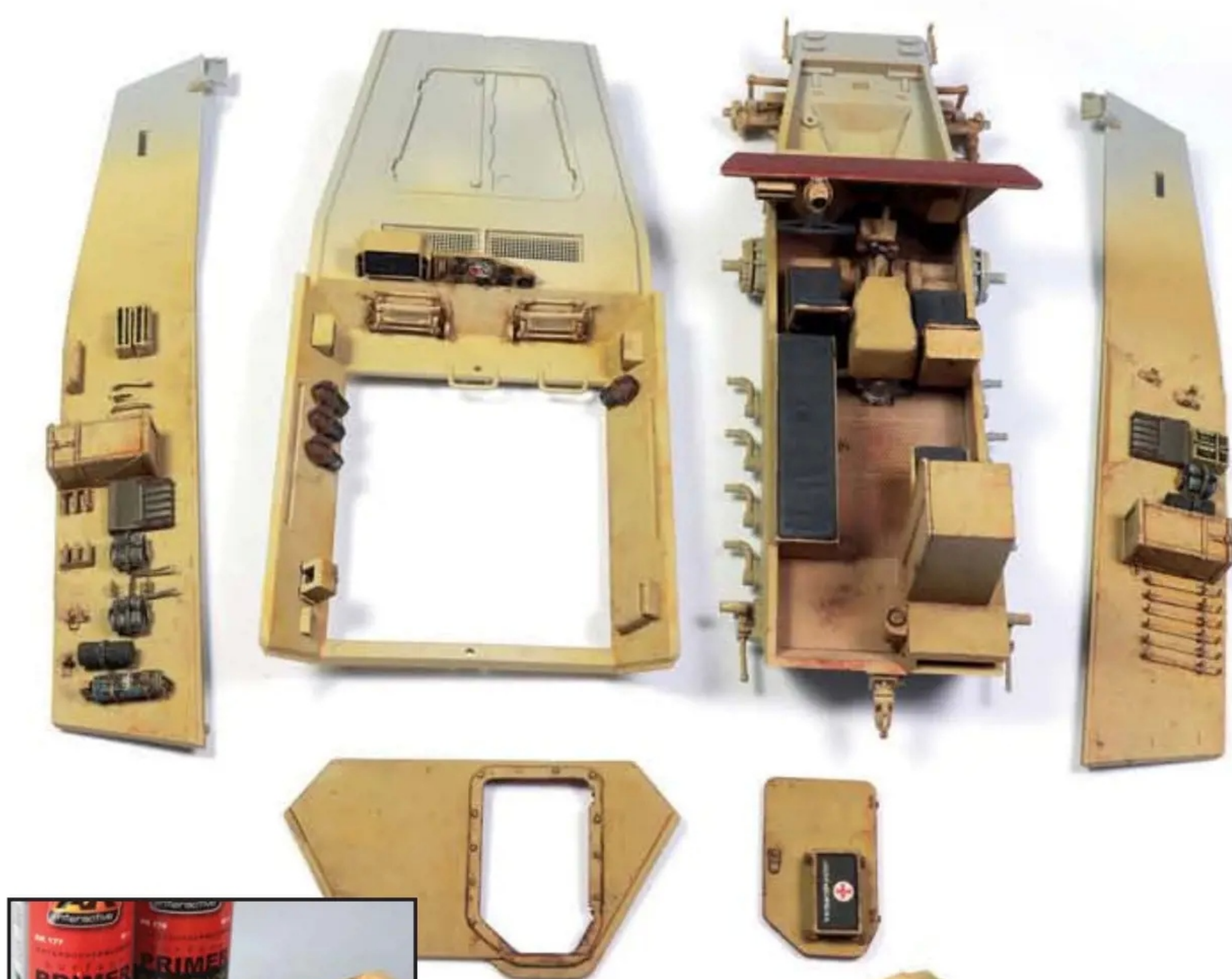


In any case, a model of an open vehicle requires some extra planning. The entire interior has to be assembled and painted before the main body of the vehicle is completed, as access is very difficult afterwards.

In the case of the SdKfz 250, there are also a lot of small details, attachments and equipment. Once this task was done, the model was finished practically out of the box.







For the base coat I used a mixture of dark yellow and white primers from AK Interactive. Over this I airbrushed the olive green and reddish brown colours from Mission Models according to a freehand line pattern suitable for the Normandy front. After an overcoat of Tamiya X-22 acrylic varnish, the decals were applied using Microset and Microsol liquids. I used a decal sheet from Star Decals (ref. 35-C1312) dedicated to vehicles of the 116th Panzerdivision in Normandy. One of the combinations corresponds to a SdKfz 250/9 and that was the one I used, changing the order of the numbers.

I continued with chipping and oil painting, similar to the painting of the Panthers. After that I applied an outline and unified the appearance of the model with a coat of matte varnish (Vallejo Premium airbrush 62.062). I used pigments for the dirt.





# SdKfz 250/1



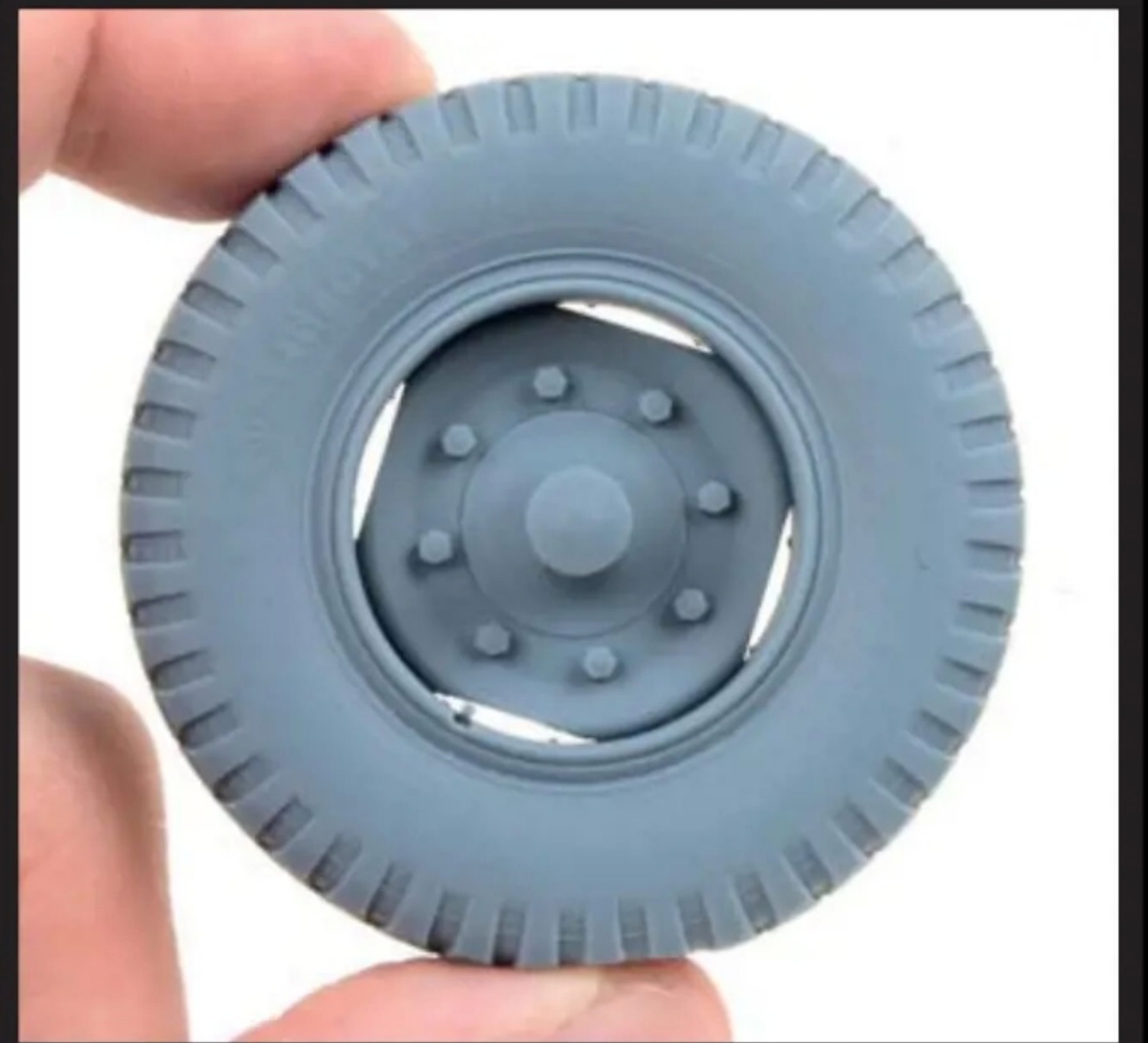
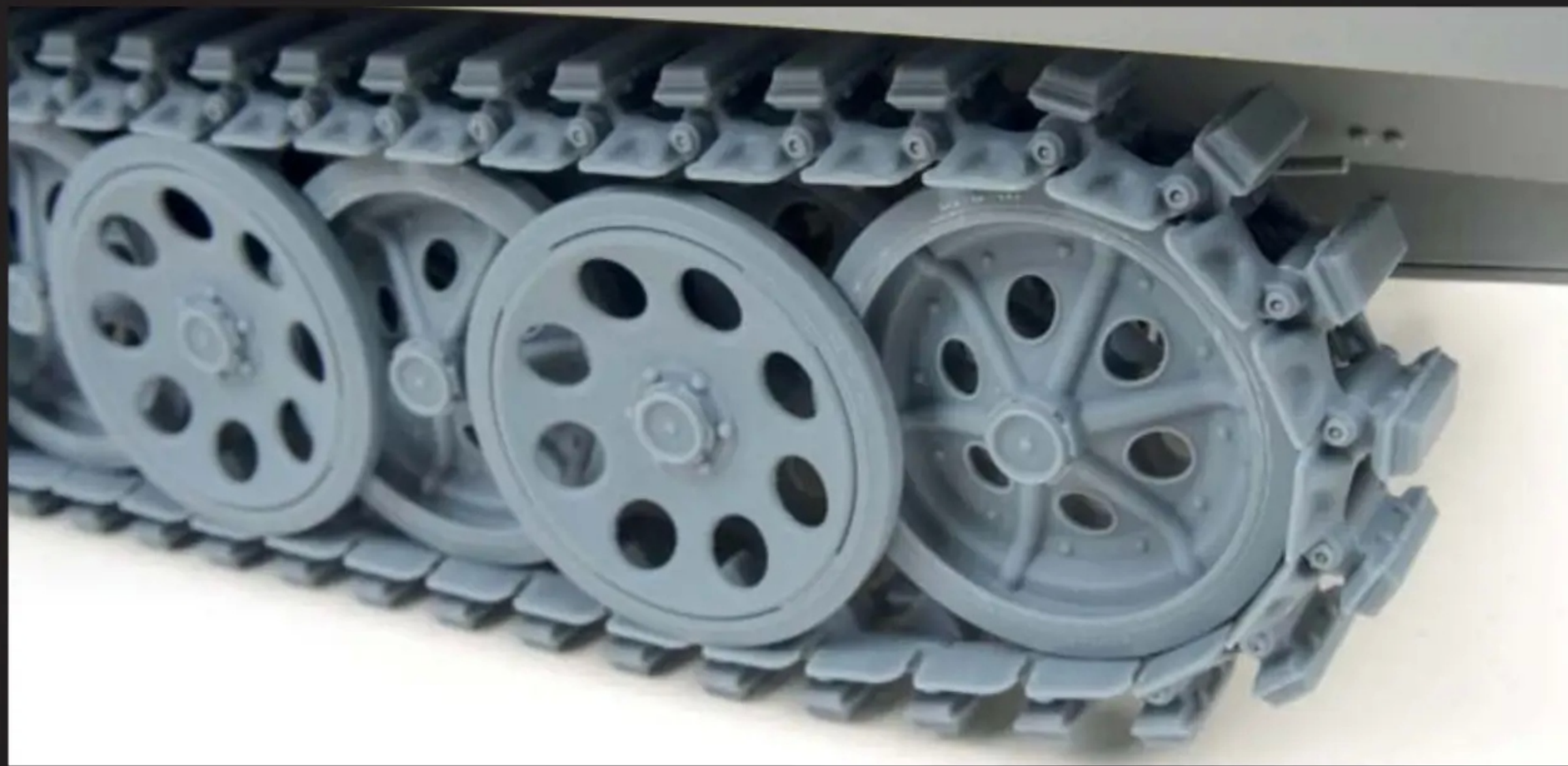
CONTINUED  
IN THE NEXT  
ISSUE





# Sd.Kfz. 251 HALFTTRACK UPDATE PARTS

# 1:16



## Sd.Kfz. 251 'Mid' Tracks with sprockets

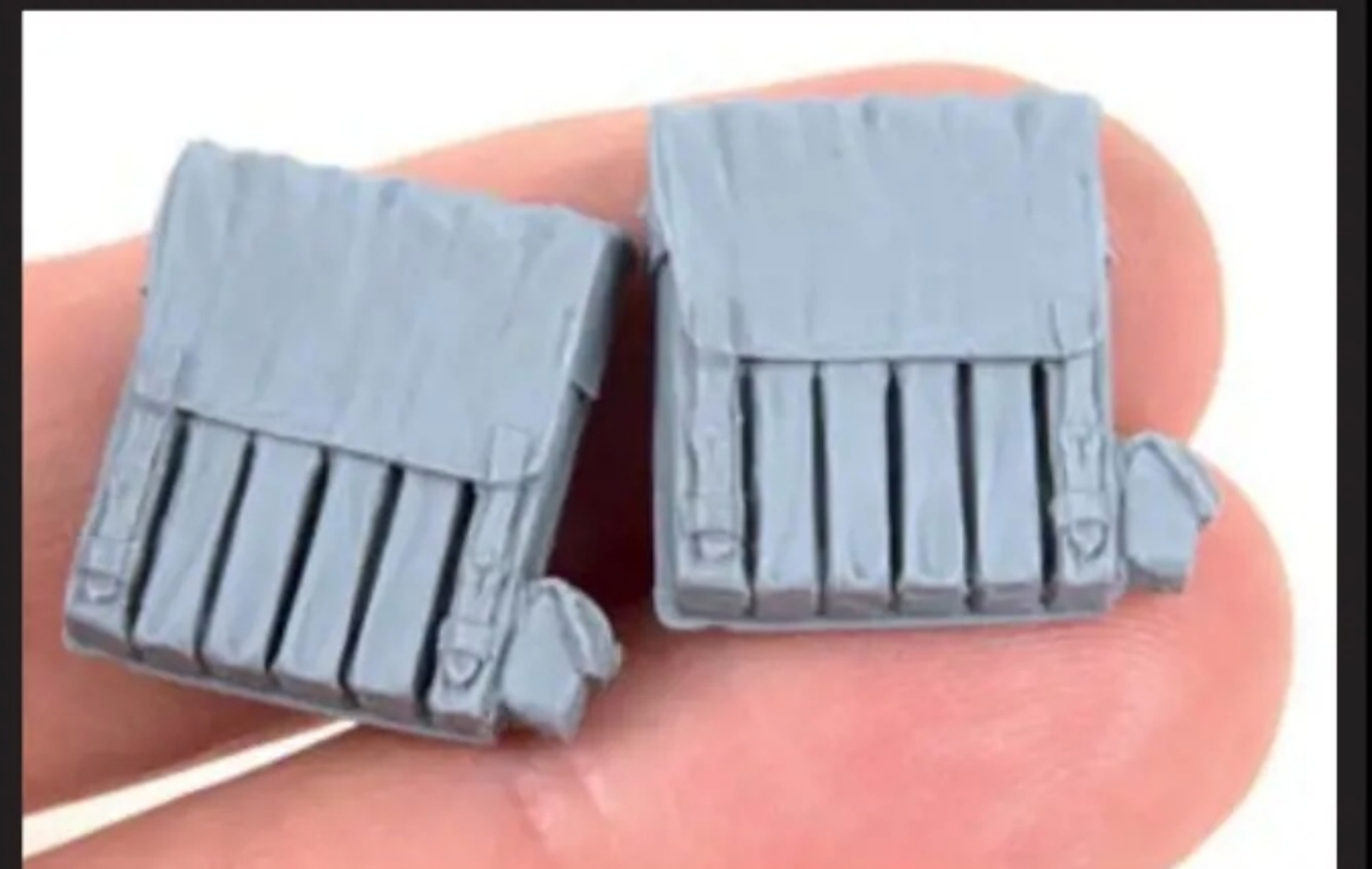
Although we have labelled these as 'Mid' tracks by way of modeller's shorthand, this type of track is seen on both Ausf.C and Ausf.D. Once you start looking you find this track used on numerous vehicles. The set provides 120 individual handed track links with separate pins to assemble them and one of our upgraded drive sprockets.

## Sd.Kfz. 251 'Late' Steel Tracks with sprockets

Introduced to save rubber by replacing the track pads with steel 'shoes' these tracks tend to be seen on later 251 types which is why we have labelled them as Late. The set provides 120 individual handed track links with separate pins to assemble them and one of our upgraded drive sprockets.

## Sd.Kfz. 251 Late Hub Front Wheels

This set of two 3D printed weighted front wheels provides the late style hubs with the four cut outs with the same super detailed tires as our other set of Sd.Kfz. 251 front wheels. Suitable for both Das Werk and Trumpeter Kits.



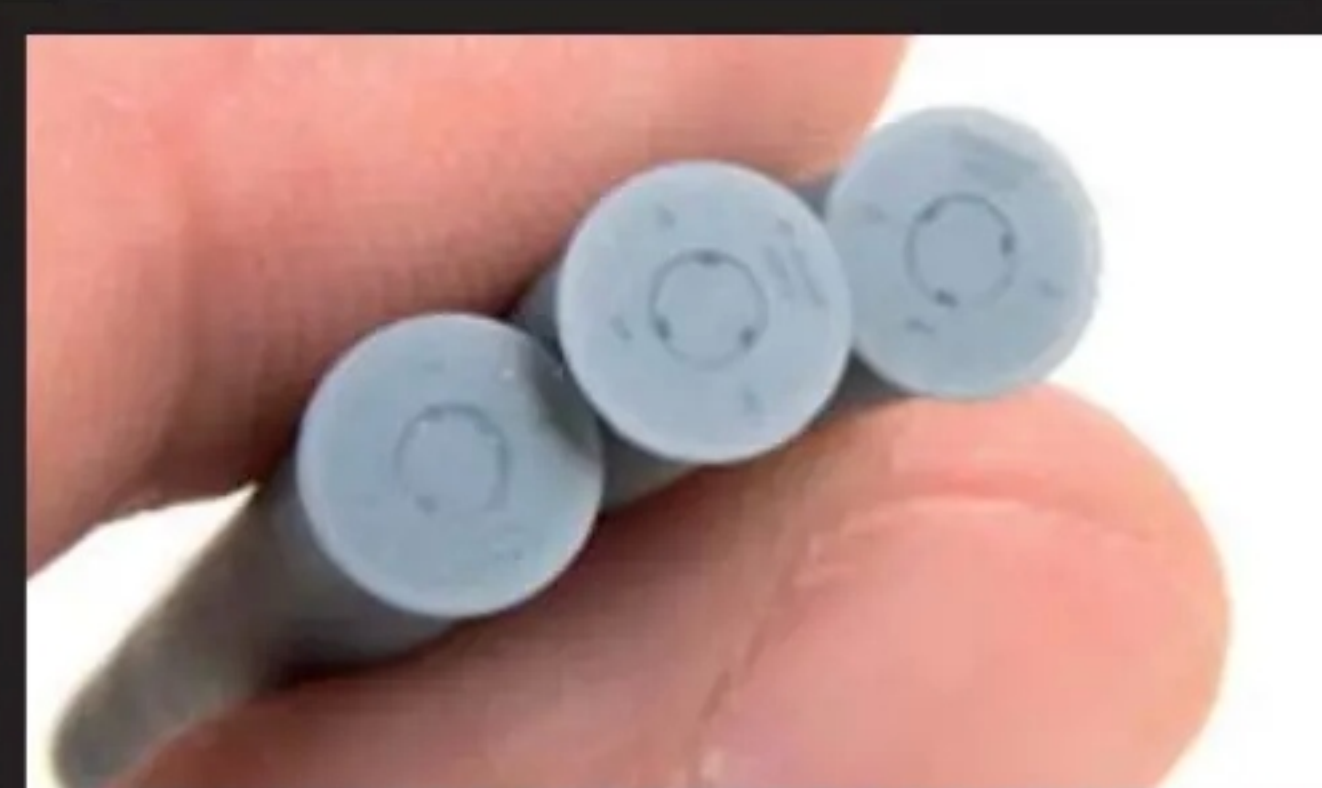
## MP40 Magazine Pouch

A common piece of stowage across many German armoured vehicles these are especially visible in the Sd.Kfz. 251 so we have packaged them as a set of two.



## Pak40 Ammunition Containers

Set of five 3D printed ammunition containers for the Pak40 75mm ammunition. Designed with separate caps to avoid any visible print support contact points on the completed tubes.



## Pak40 Ammunition

Set of six Pak40 75mm shells, (three AP and three HE shells) Designed and 3D printed in two parts to avoid any visible print support contact points on the completed shells.



# 1:16

## M113 APC

**AFV**  
modeller



### M60 Machine Gun

Our super detailed M60 is designed to enhance the AHHQ M113 ACAV and is available as a twin gun set with ACAV shield cradle and folded bipod. The gun is also available as a single stand alone version with the option of bipod folded and with bipod deployed.

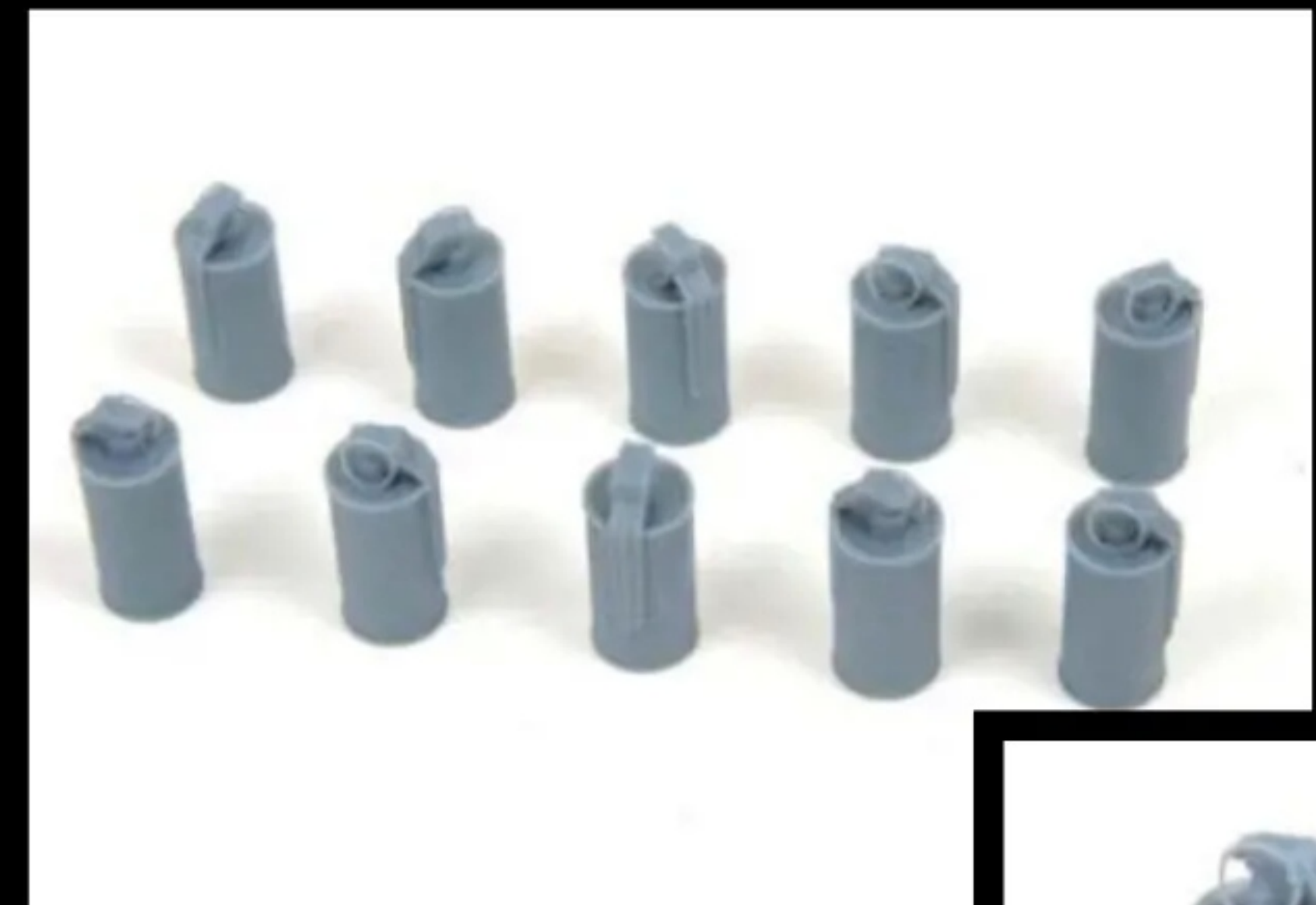
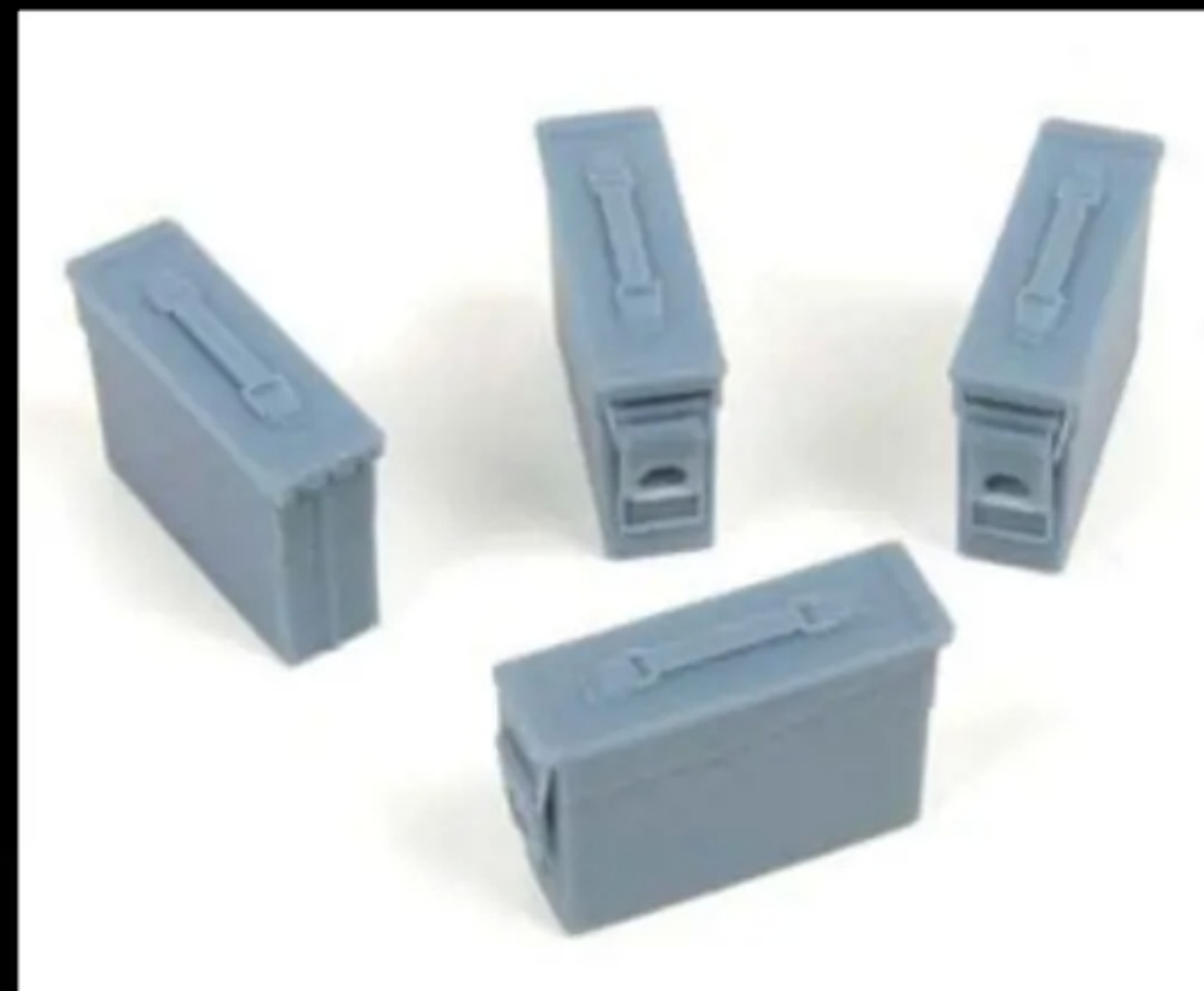
### 7.62 Flexible Ammo belt

The perfect addition for the M60, our flexible resin ammo belt can be posed easily as our pictures show



### M2 Browning .50 Cal.

Designed to enhance the new AHHQ 1:16 M113 Armoured Personnel Carrier our detailed 3D printed rendition of the iconic heavy Machine Gun features the distinctive flash suppressor, delicate barrel change handle and the correct M23 Cradle.



### Vietnam Era Accessories

To complement our M113 ACAV weapons we have also released sets of 50 Cal ammunition boxes (A set of 4 boxes with one open with ammunition belt). We also have a separate set of 4 7.62mm ammo boxes and lastly a set of 10 M18 smoke grenades.





# ABSOLUTE ABRAMS





**First, a few words about the MBT itself**, because it is quite an interesting vehicle and it seems to be the direction in which tank design is going.

The Abrams X technology demonstrator is a thorough modernization of the currently produced M1 Abrams main battle tank. The tank has an unmanned turret equipped with a 120 mm XM360 smoothbore cannon, powered by an automatic loader with an ammunition supply of 34 rounds of 120 x 570 mm. The turret armour is designed to provide a very high level of protection. Safety is further enhanced by the Trophy active vehicle protection system, as well as systems warning of laser radiation and the launch of anti-tank guided missiles.

The tank also has new digital imaging systems for the crew similar to those used in aircraft.

Additionally, a remote-controlled Kongsberg Protector RS6 weapons module with a 30 mm M230 automatic cannon was placed on the turret roof, adapted to fire programmable ammunition with the ability to combat unmanned aerial vehicles (drones). It is also possible to integrate the tank with loitering ammunition from the Switchblade family. The vehicle's weight was reduced to approximately 60 tons.

The crew, reduced to three, is located in an armoured capsule in the hull. The Abrams X uses a hybrid power unit. The combustion engine is a two-stroke Cummins ACE diesel engine supported by an electric motor. In addition, the 'X' has hydropneumatic suspension.

1:35

Lukasz  
Orczyc-Musialek

BUILDS THE  
NEXT GENERATION M1  
'ABRAMS-X'





The model produced by Amusing Hobby matches current standards. Of course, it is not perfect, but the minor mistakes are compensated by a very complete kit with nice extras. In the box, apart from the sprues, you will also find pixel camo painting masks, photo-etched elements, 3D printed parts, metal barrels, and workable tracks. A really nice set, even though the model itself is quite simple to build and assembles really quickly. Of course, you can try to replace or add some elements, as I did in my model. This is not necessary and depends only on your own discretion and possibilities.

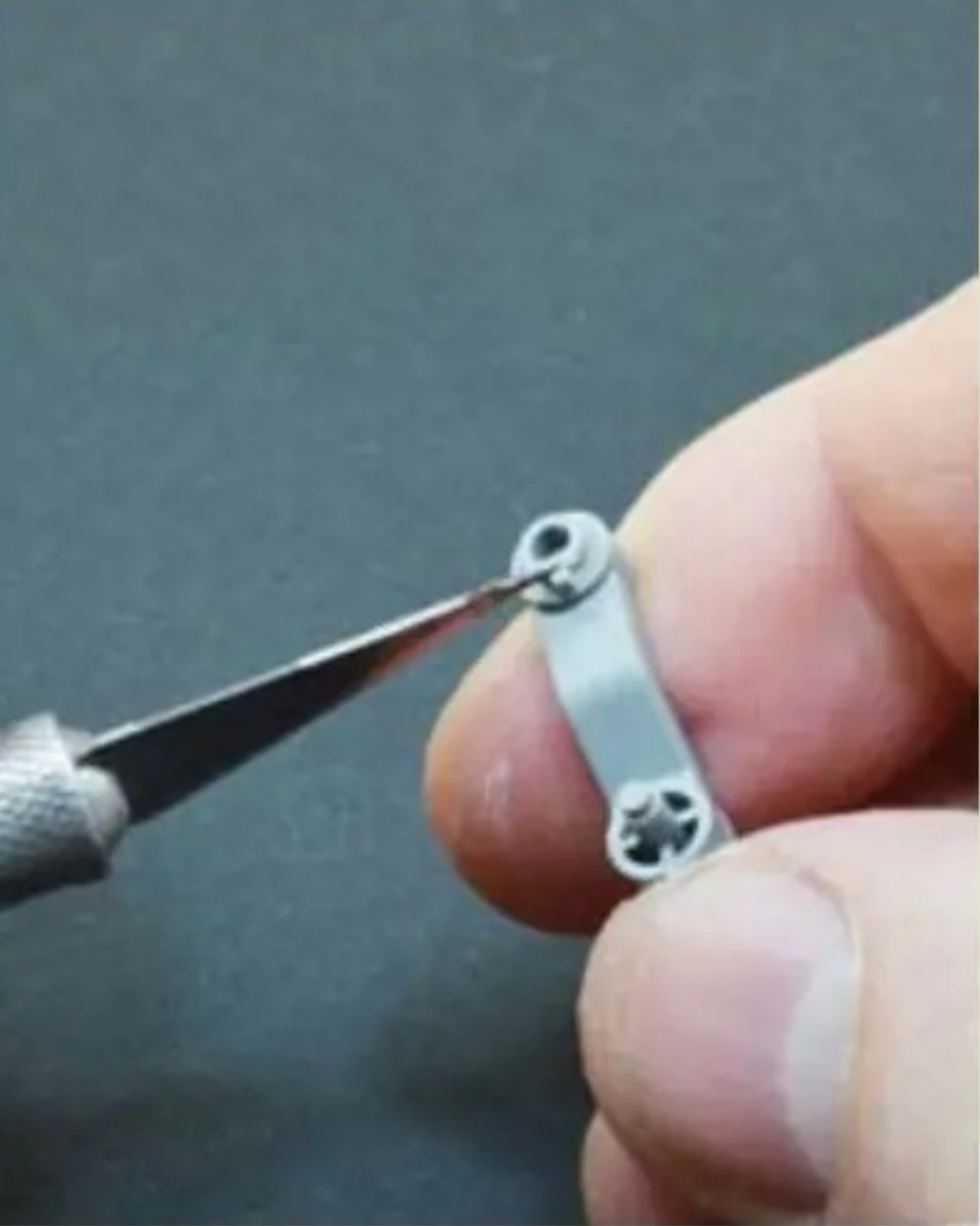
I knew from the very beginning what I wanted my model to look



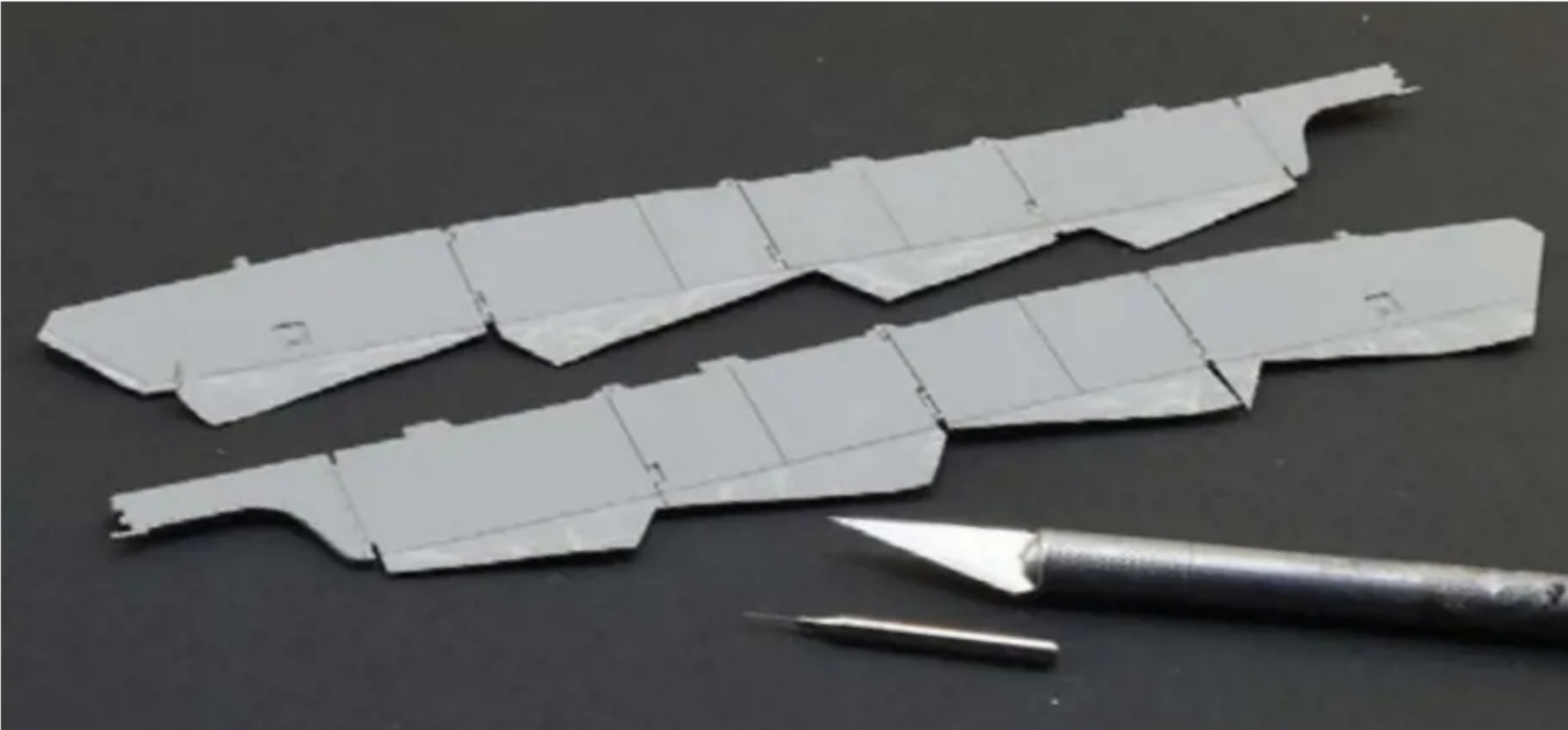
I prepared the main elements of the hull and chassis at the very beginning, planning to match the suspension to the base on which the model was to be placed.

like. Additional antennas, damaged side skirts and camo net enriched the look, and combined with interesting painting and strong weathering, created an eye-catching miniature. It is worth considering this at the very beginning because the model has many flat surfaces, which on the one hand cause monotony, and on the other hand, provide many weathering possibilities and additional variations.

If you are interested in the entire process of creating this model, check out my YouTube channel - COLDEMONSpl. There you will find the Abrams X series and other interesting projects.



To facilitate the proper positioning of the chassis elements, I removed the limiting pins and thus each swing arm could be freely positioned on uneven ground. To be sure, I glued a piece of toothpick into each trailing arm which stabilized their mounting in the holes in the hull.



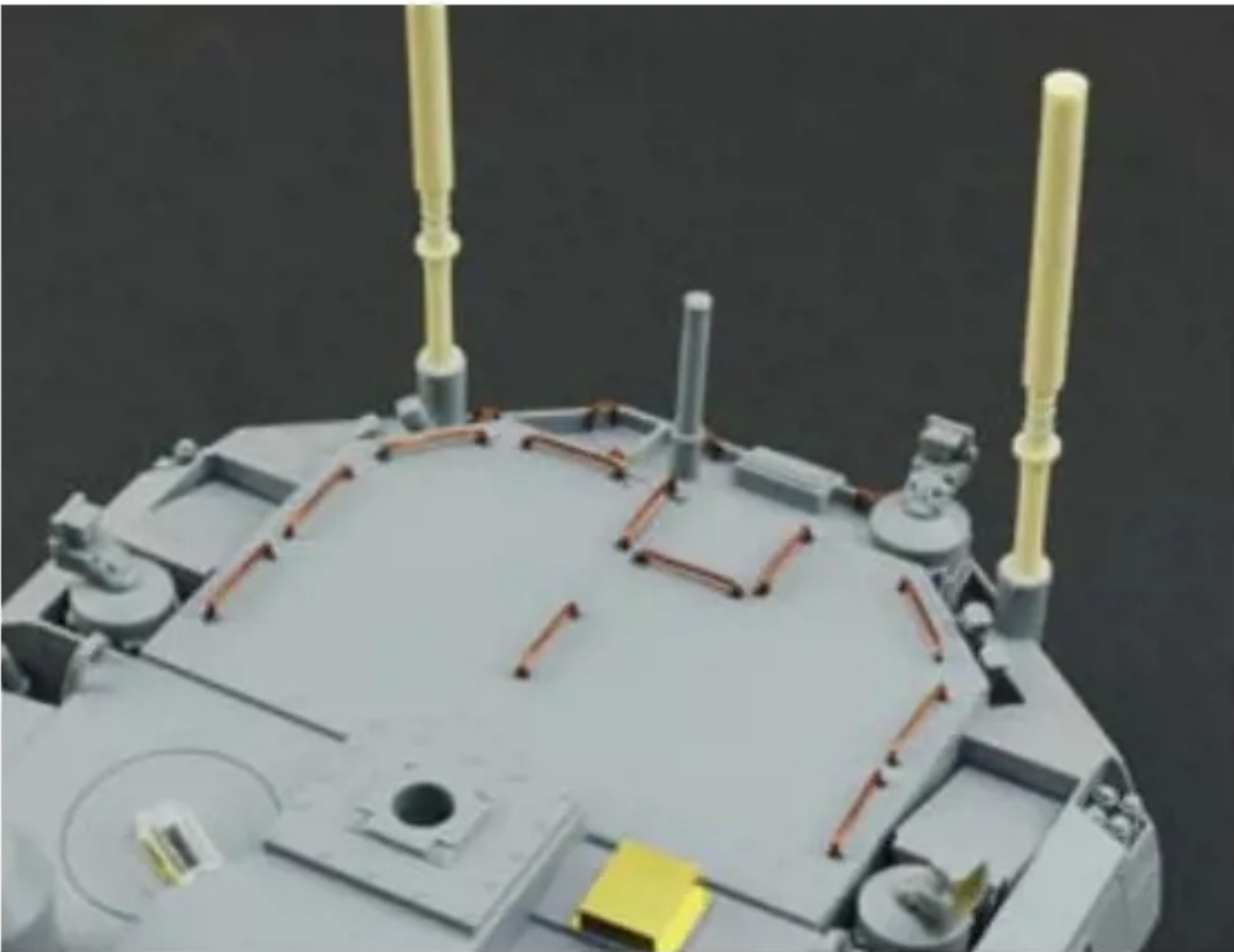
I slightly modified the side covers by cutting out the rear part of the rubber fender and bending them slightly to avoid a uniform and even appearance.



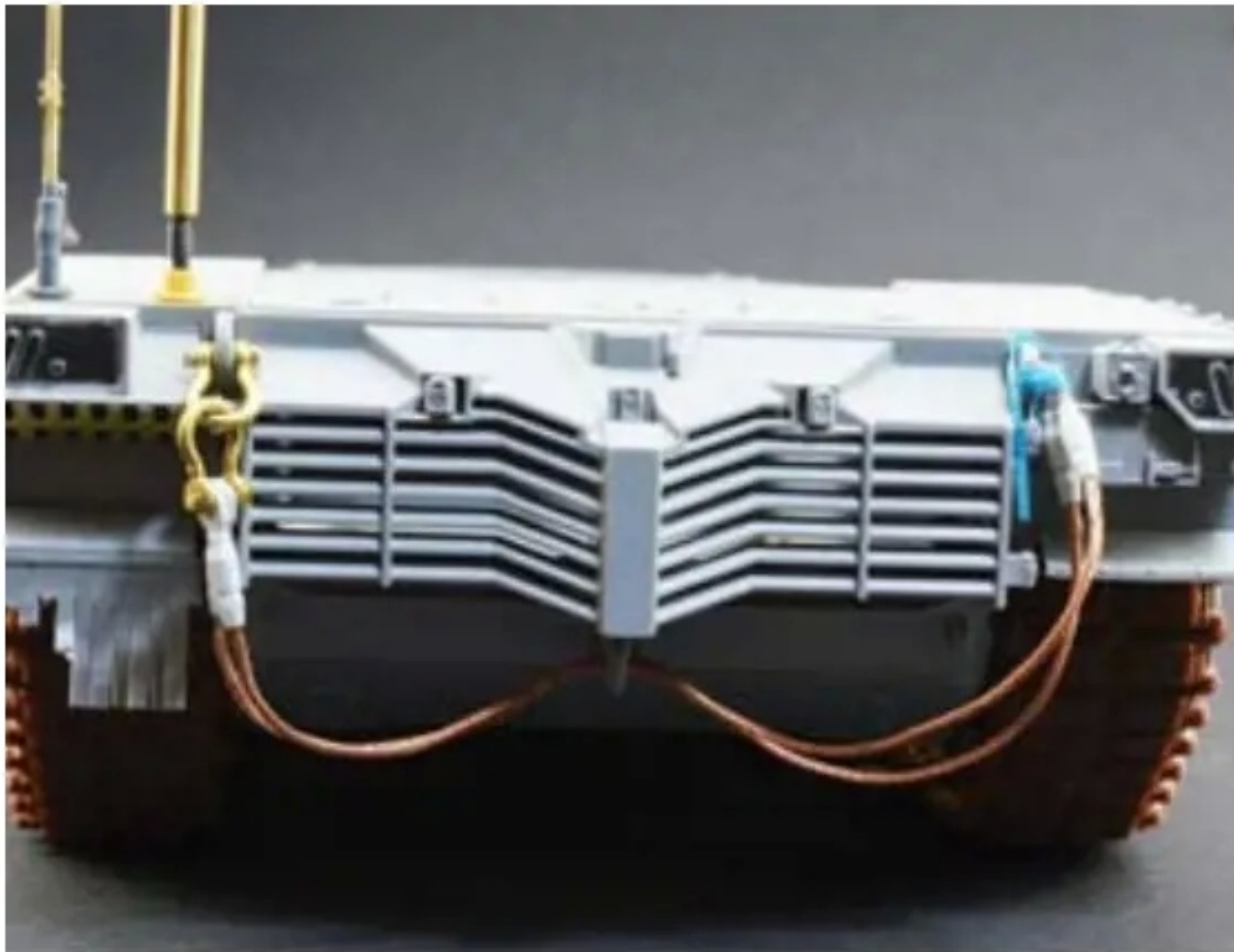
The gun barrel on the turret has been improved by drilling out the holes on the cover and muzzle brake.



The main armament consists of a metal barrel and a 3D printed muzzle brake. You need to be careful during its installation as the resin is quite brittle and easy to damage.



The large area on the rear of the turret roof has been detailed with holders for crew equipment. I made them from copper wire. Additionally, I installed two resin antennas from Voyager. It definitely enriched the appearance of the entire model.



On the rear I added a set of tow ropes from Eureka XXL and shackles from RB Model. Pay attention to the modification of the rear mud guards, which I based on photos of the Abrams.



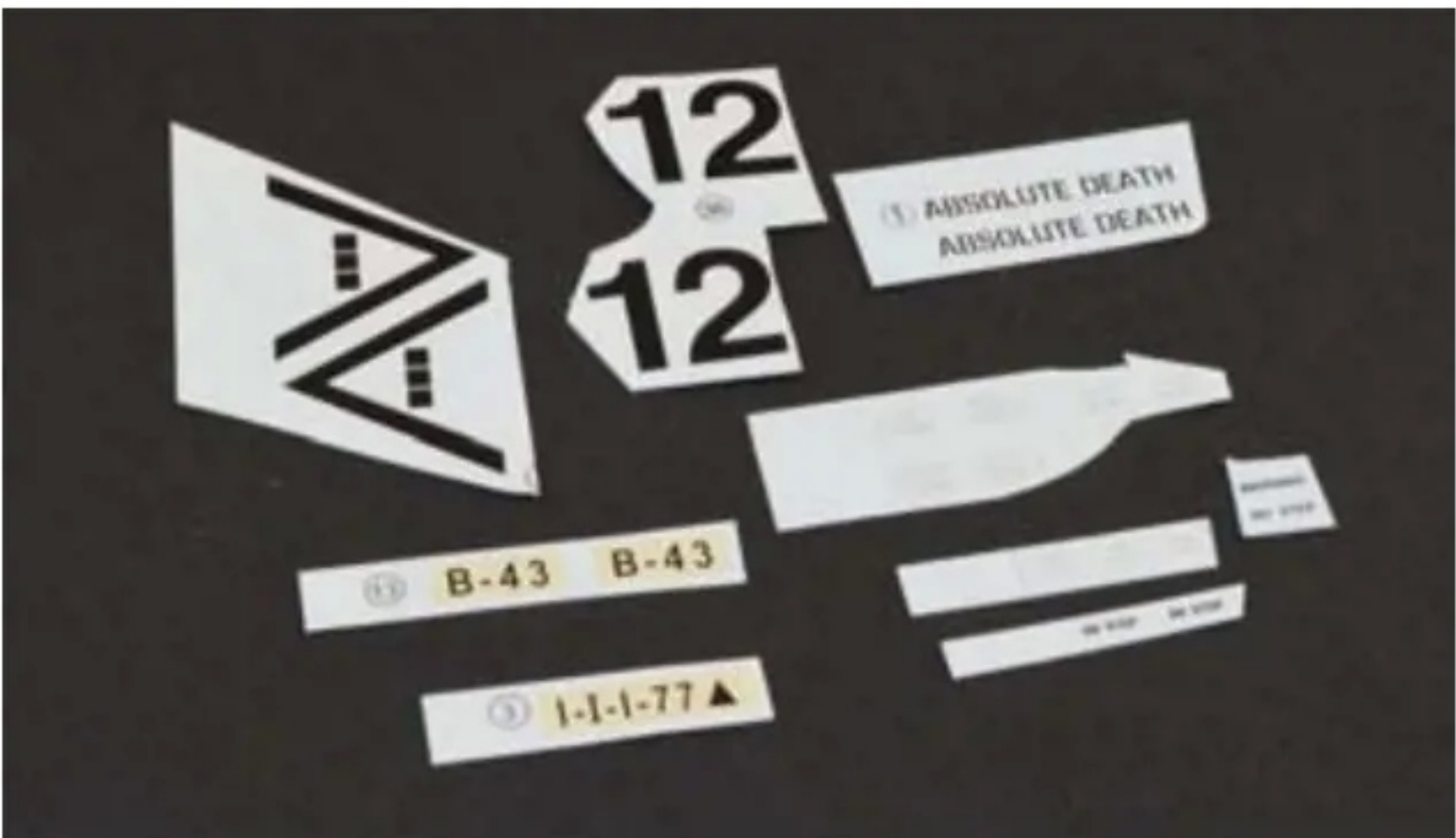
I installed two antennas on the back of the vehicle, but this was changed in later stages after a comment from one of my YouTube subscribers, who noticed that with the turret rotating, such a configuration would not be possible.



The mud guards at the front of the vehicle have also been slightly modified. I also added another metal shackle and installed tracks.



Thanks to all the accessories, the model looks much more interesting than one built straight from the box.



The kit does not include any decals, so I decided to reach into my collection and gathered a few spare markings from another Abrams some time ago.



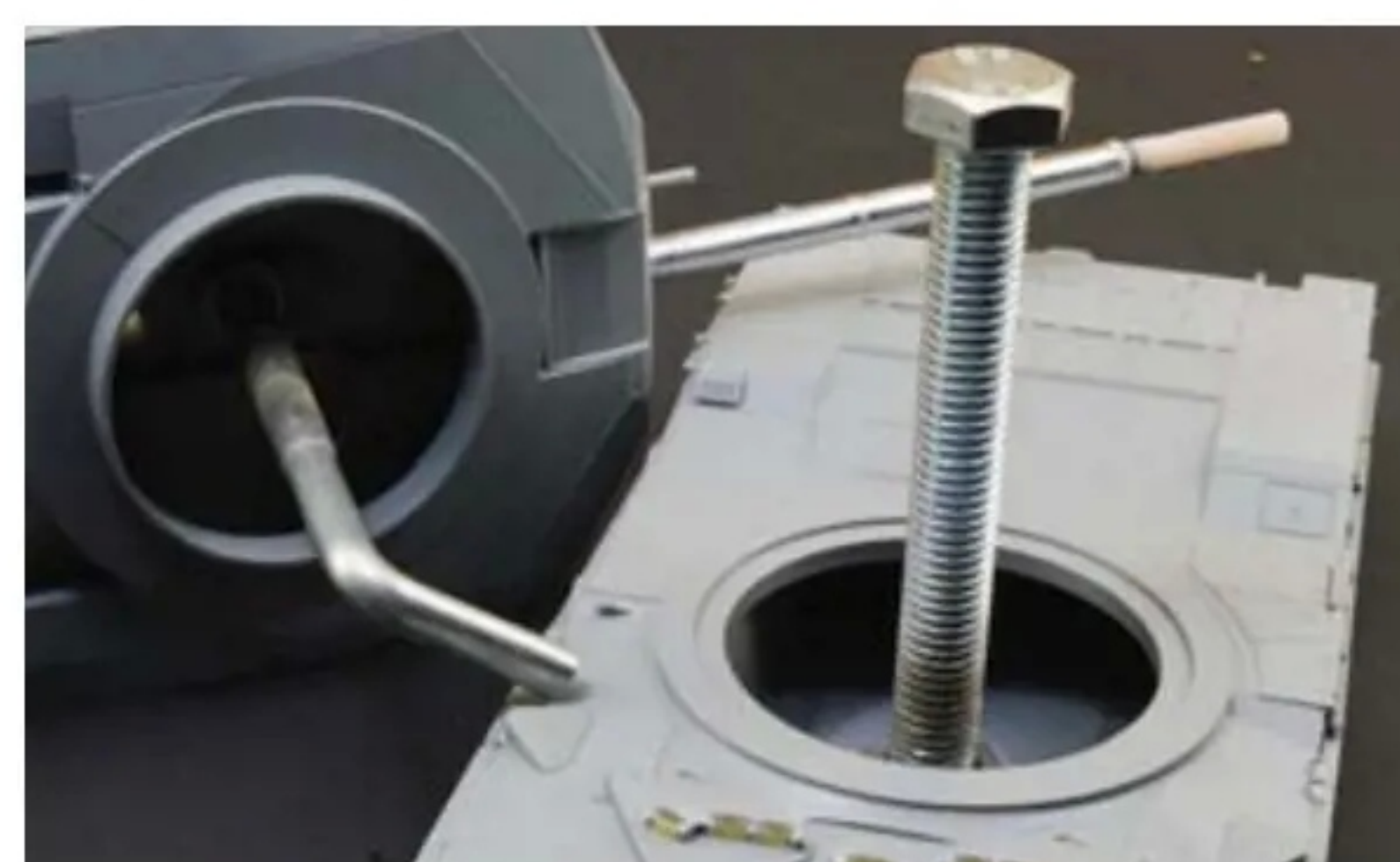


The entire model is ready for painting and divided into elements that will be easier to paint separately.



I glued nuts and to the hull and turret to attach bolts which make it easier to handle the model during painting and weathering.

I washed the entire model using Model Degreaser which removes all the dirt and oils that accumulate on the surfaces during construction.



I covered all metal elements with a metal primer which increases the adhesion of the paint to these parts.



The base colour is NATO green, which I applied to almost the entire model. To enrich the tone of the base colour, I used stencils with irregular mottles and sprayed through them with a lightened base colour.



I applied a thin layer of gloss varnish to the prepared surfaces and added a set of markings which I attached to the surface using the AK Decal Adapter.

I painted the additional camo using the Solid Scale mask set. I previously coated these surfaces with Worn Effect from AK to allow some realistic paint damage later.







Sand camo brightened the entire model and generally added an interesting look.

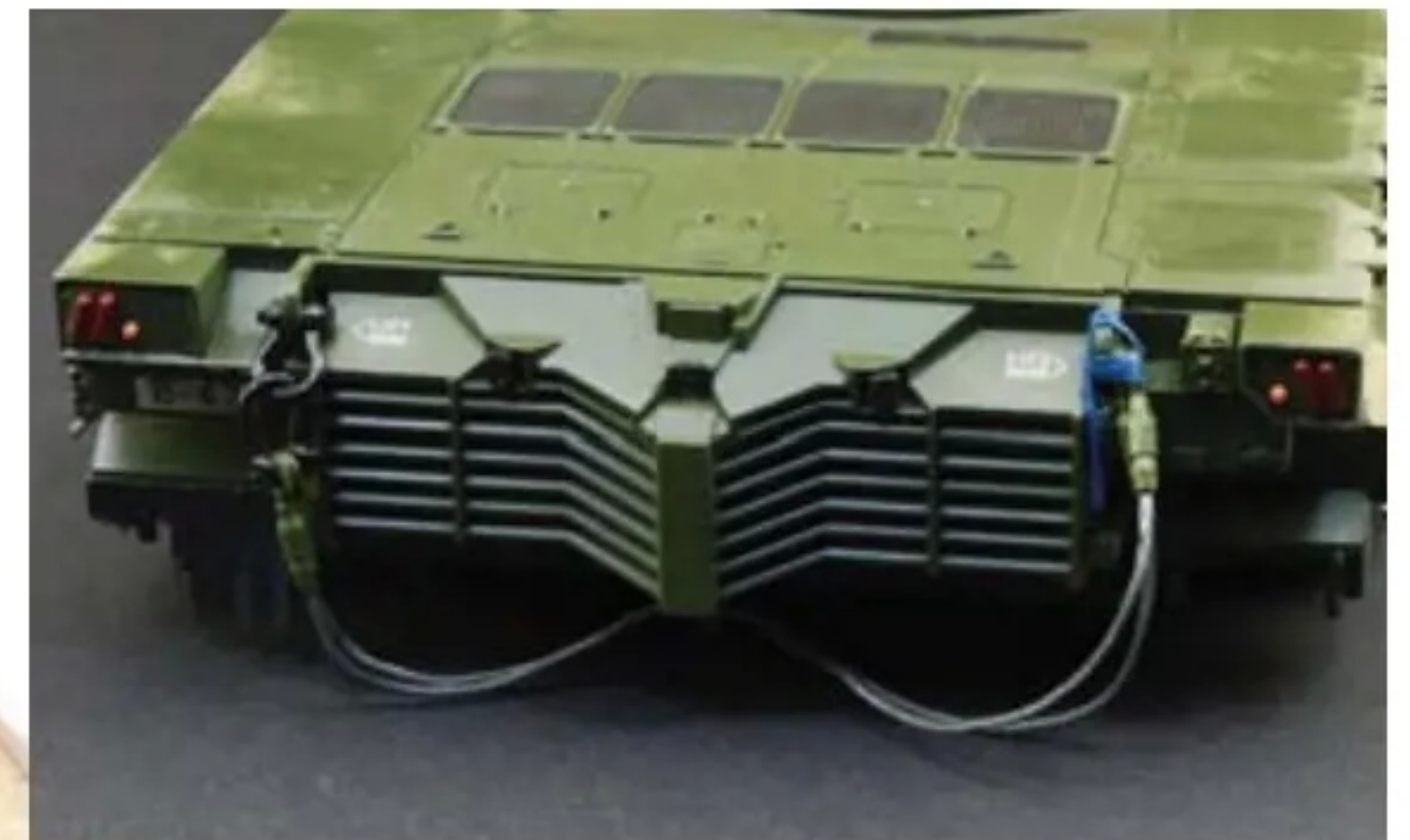


I damaged the paint by stripping the sand paint with a stiff brush soaked in water.



After painting all the details and applying additional "C 34" markings (thin strips of white adhesive tape), I tried a dry fit of the model to the base.

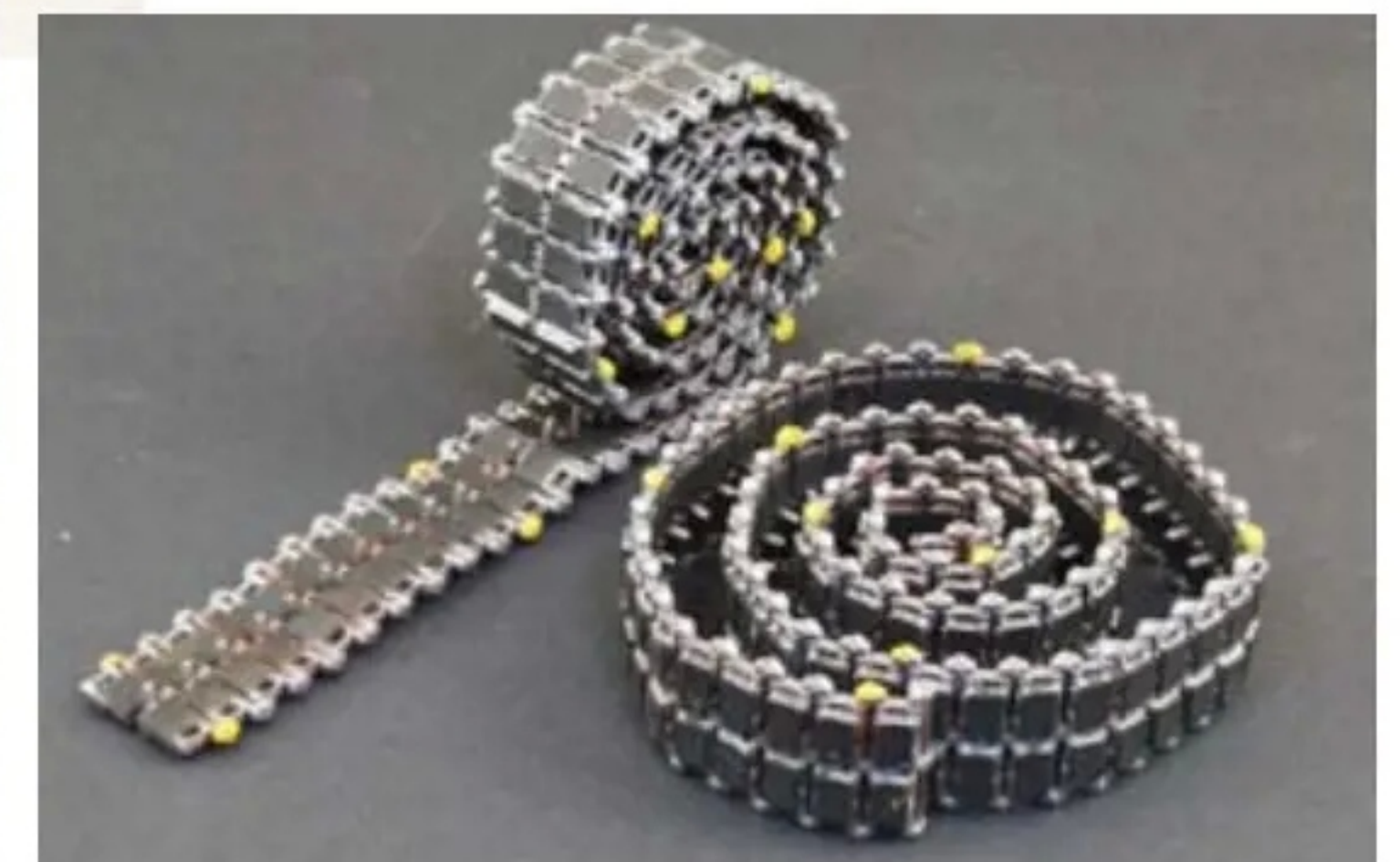
I painted the tow ropes, which are a visible addition on the back plate, with basic colours, leaving them for weathering later.



On the upper plate you can clearly see the remains of sand camo, which was specially applied with apparent inaccuracy to suggest applying this camo was done in field conditions.



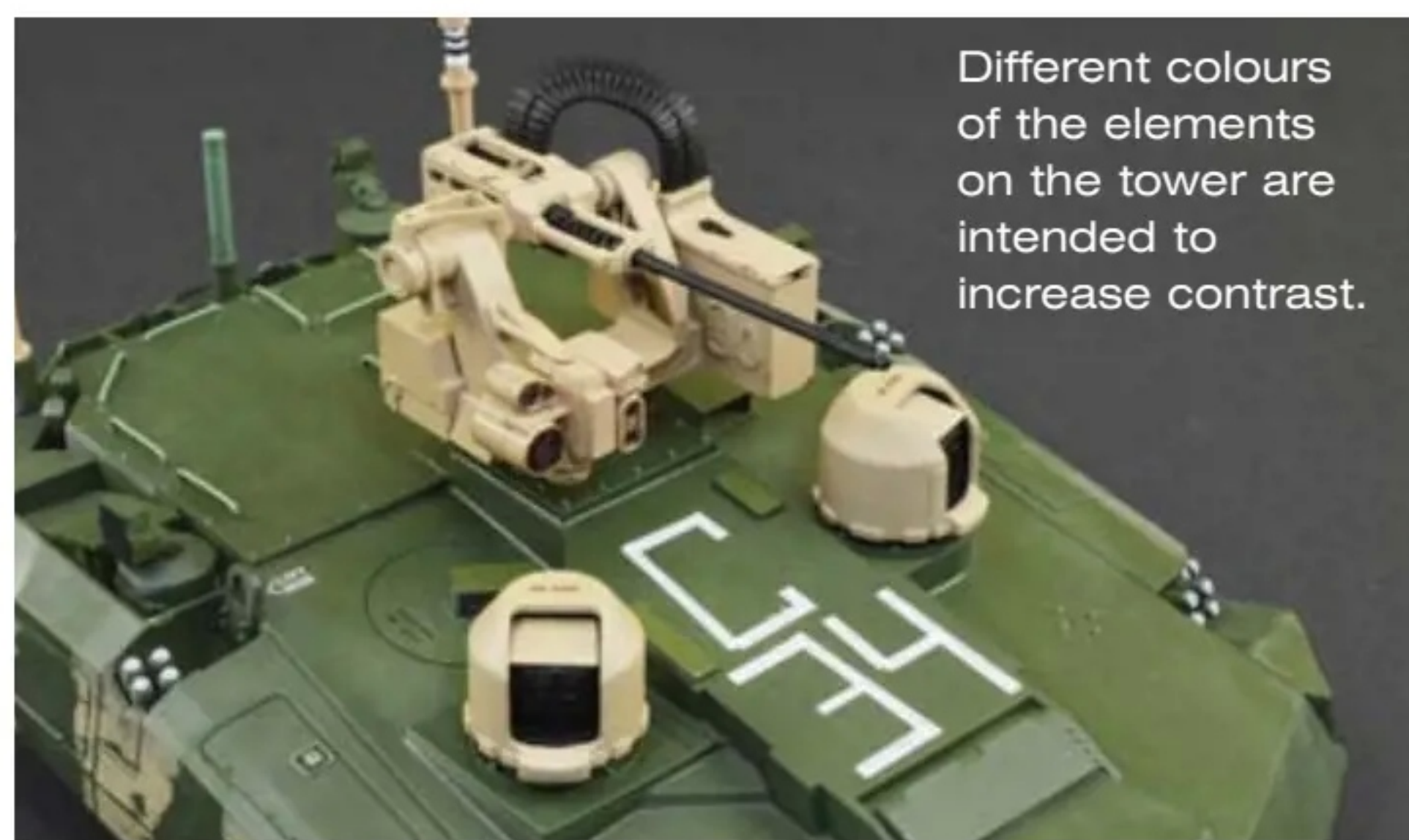
I painted the rubber skirts with dark grey acrylic and also lightened the mounting screws on the side covers.



Even though the tracks will eventually be covered in mud, I painted them and added yellow markings seen in reference images.



The name of the vehicle appeared on the barrel. Earlier, I painted sand camo in this place to make the inscription more visible.



Different colours of the elements on the tower are intended to increase contrast.



I spread Cracking Mud from Modellers World on a piece of foil so that when it dries, I can crumble the material realistically.



Here you can clearly see the arrangement of the tracks adjusted to the base. I added sand coloured wheels on both sides to increase the interest.

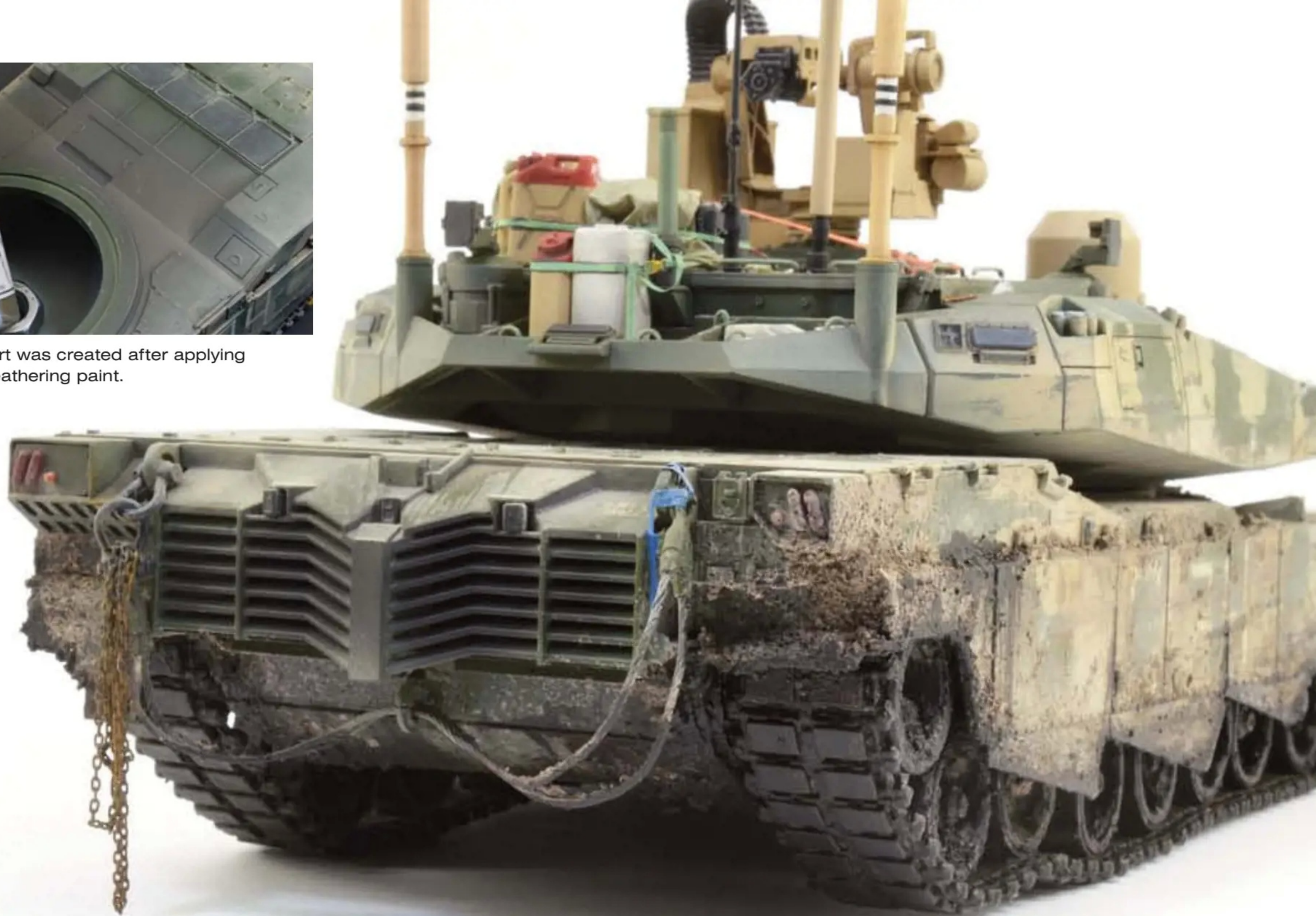
I then completed a black brown wash on the entire model to give contrast to details.







The first layer of dirt was created after applying airbrush acrylic weathering paint.



Easy chipping medium and dusty shades used in select areas build the dirt and stains.



The first layer of mud is mainly pigment. I enriched it with wet traces in the gaps where the side plates are joined.





Wet mud is a mixture of pigment, Solution Fluid and Wet Mud. All products are from Modellers World.



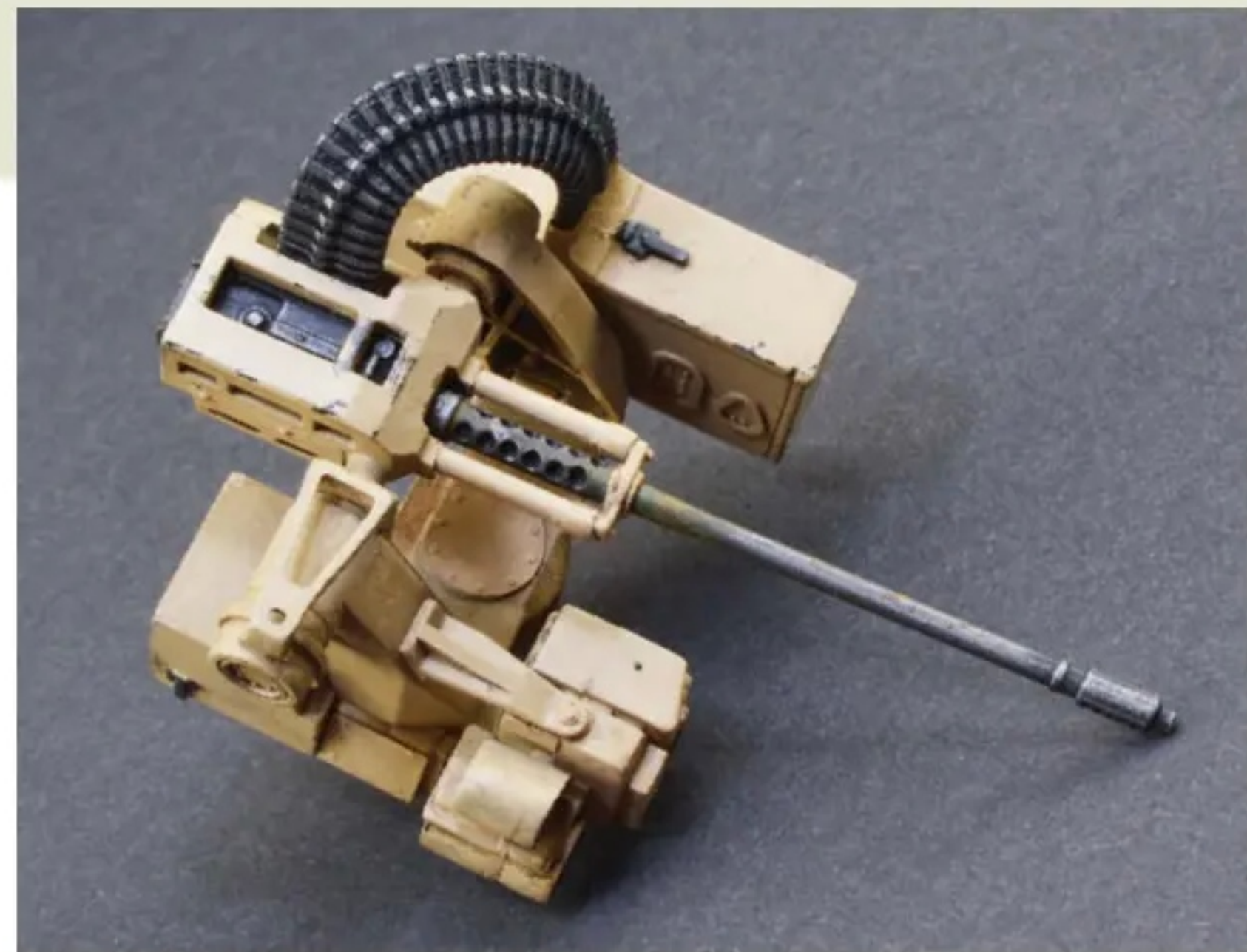
I added more wet mud on surfaces where I had previously applied dry mud.



Another element that enriches the model is a camouflage net from AK Interactive. Small pieces were glued to the model and I also added thin strips of white tape.



On the back of the tower I added stowage elements, which are a mixture from different sets. Note the bungee-straps and ratchet straps.



The turret gun has already been weathered. I rubbed the black elements with pencil and metallic pigment.



A bit of gray wash highlighted the shapes of the winter camo net.



Snow also appeared on the model, but in very small amounts. I also added empty shells cases.



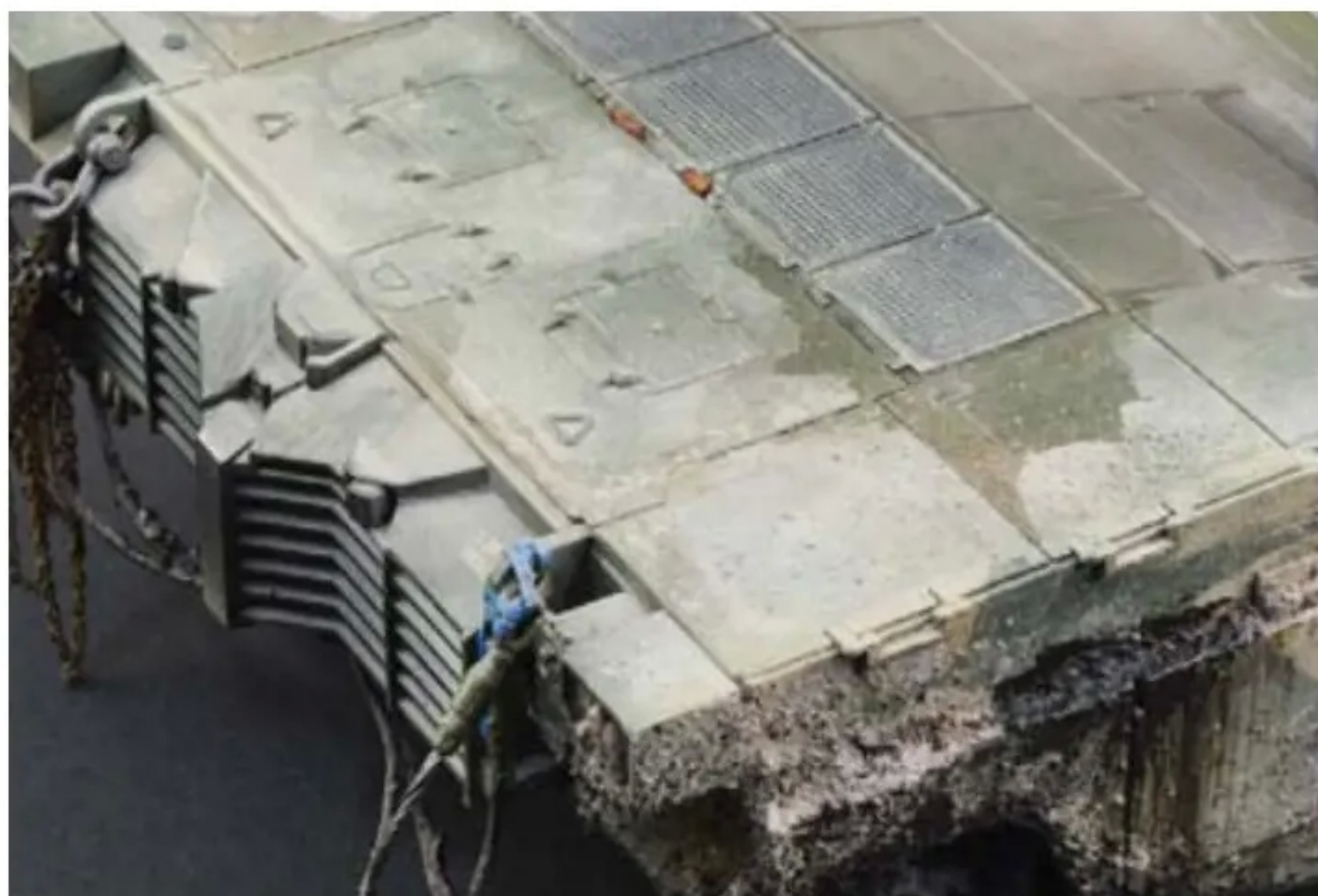
Dead leaves appeared in the nooks and crannies, stuck to the damp corners.



I glued the scenic snow powder to the model using the Modellers World Solution Fluid.

Wet spots all over the vehicle break up the uniform appearance of mud and dust.

A little rust for overheated elements is a nice addition to the appearance of the remote control weapon.







I crushed the dried mud into small pieces to mix them with the wet mud.



I added a bit of very dark pigment to the mixture of wet mud and pieces of dry mud. In this way, I prepared the mixture to cover the surface of the base. The same mix was used on the model itself.



On the asphalt road, despite various colours and textures, I also added dust and water marks. There were also chunks of mud that have been thrown by the tracks.



The model placed in the terrain at last. Note how the Abrams blends into the earth and doesn't 'float'.





# ABSOLUTE ABRAMS









**This diorama is nakedly political.**

I make no apology for that. Recently it has become popular on social media to model current conflicts, and if someone gets upset, to throw your hands in the air and say “no politics! Its just modelling!”, as if we live in some bubble the rest of the world can’t see into. Modelling current conflict is inherently political because whether you intend it or not, it says something about that conflict. So instead of shying away from it, I decided to own it.

Like everyone else, I was appalled by the full-scale invasion of Ukraine by Russia in February 2022. This was due in no small part to knowing a number of people in the country through modelling and through editing an aircraft modelling magazine a few years ago. I spoke them as missiles landed, and tanks advanced on their cities. It seemed like in a week or two, the disaster would be completed. But it wasn’t. they fought back. My friends asked me about boots and body armour and all kinds of things, and I did what I could to help, and over time as the country got itself organised for war, they started raising money for drones and night sights, and especially for technical to ferry casualties away from the trenches, and move men and material up. Some of them served and I followed their updates. And one of them was killed...

This diorama then was intended as a tribute to those friends, and as a way of reminding people what is going on. In a way it seems trivial to make models. I raise money in various ways, but this is what I know how to do (perhaps best) so this is what I made.

**PART TWO**

# HEROYAMSLAWA!



# GLORY TO THE HEROS!

Created by Chris Meddings



1:35



# T-72 B3 model 2016

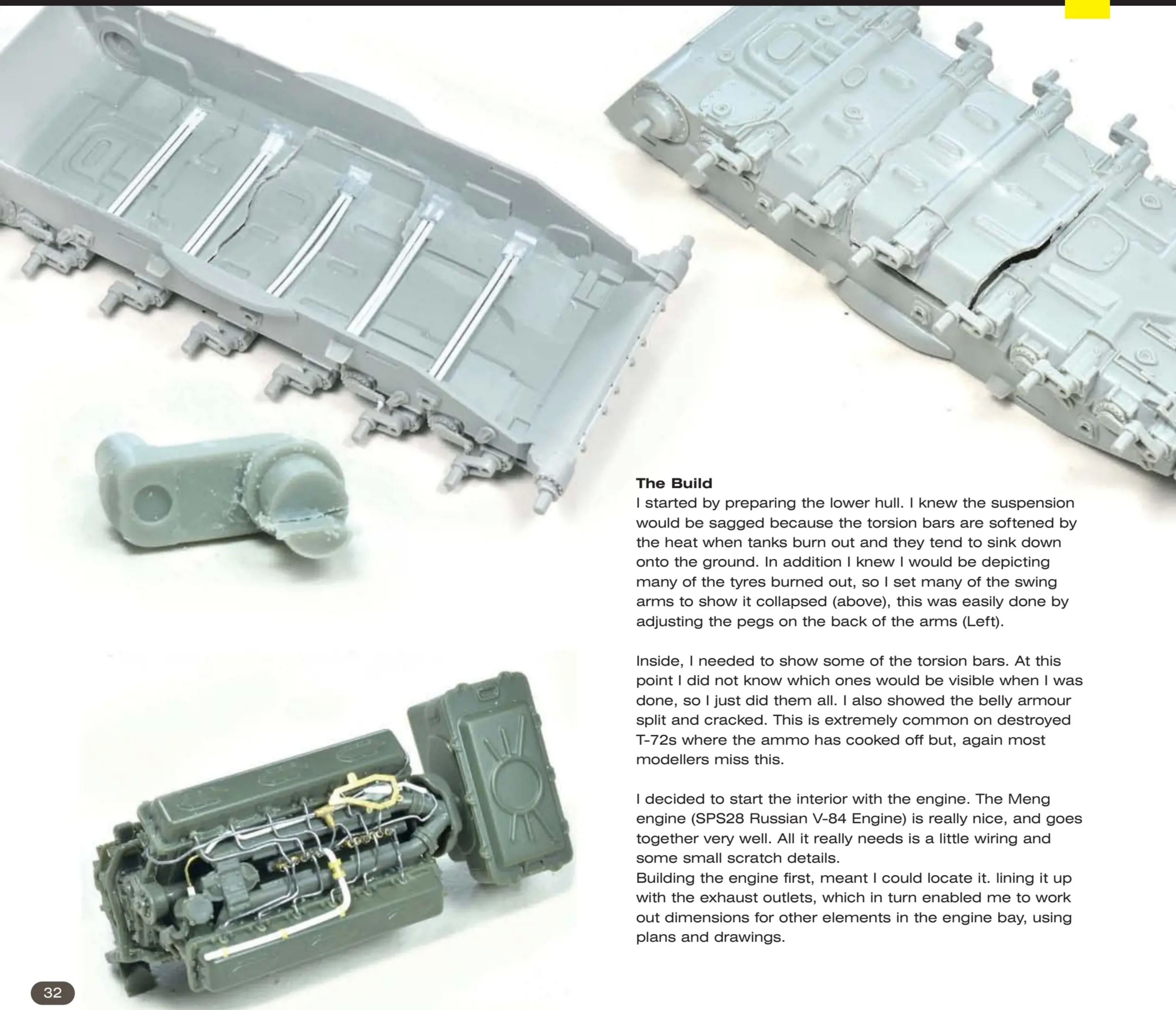
Despite all the T-90s and T-14 Armatas Russia parades on the 8th May Victory Day, the vast majority of its active tank force is T-72 of various types. Before February 2022, the Russian Federation was believed to have approximately 4500 T-72s of various types available for service, with more in reserve (in rather questionable condition). Most estimates for Russian losses of T-72 in the invasion of Ukraine put the number at around 2000, meaning they have had to reopen tank plants to rebuild the poor condition tanks from storage, to replace those destroyed.

For modellers, there are a lot of photos of destroyed tanks to work from. They often feature the now-famous 'cope cages' designed to stop Javelin and drone attack, and very commonly, they show the turrets blown off; the result of a well-known design issue of using an auto-loader and storing ammunition under the turret floor, and inserted into the fuel tank behind the gunner and commander.

## The Kit

I spoke to my good friend Alex Clark when researching this build and he said the best option for a starting point was the Trumpeter T-72B3 Model 2016 (09561). If you just want to do a Russian T-72 in 1/35, you have a lot of options! Photos exist of T-72 Ural, T-72A, T-72AV, T-72B, T-72B Mod. 1989, T-72B Mod. 2022, T-72BA, T-72B3, T-72B3 Mod. 2014, T-72B3 Mod. 2016, and T72-B3 Mod. 2022. But I wanted that 'look' the 2016 has. So this was the right kit for me. In addition I used Tetra Modelworks Russian 125mm 2A46M-5 metal barrel (MA-35014), and their PE set T-72B 1990Mod for Trumpeter (ME-35007). Although this is for a different kit, much of it was usable in this case.

Most people choose the Amusing hobby T-72 kits for destroyed tanks, because they have a full interior. But studying photos of destroyed tanks, it became obvious they were absolutely smashed inside, so I decided to scratch the destroyed interior rather than build an intact one and then destroy it. I did buy the engine set from Meng to save me a bit of work in the rear. Other than that, white styrene would be the way forward for this build...



## The Build

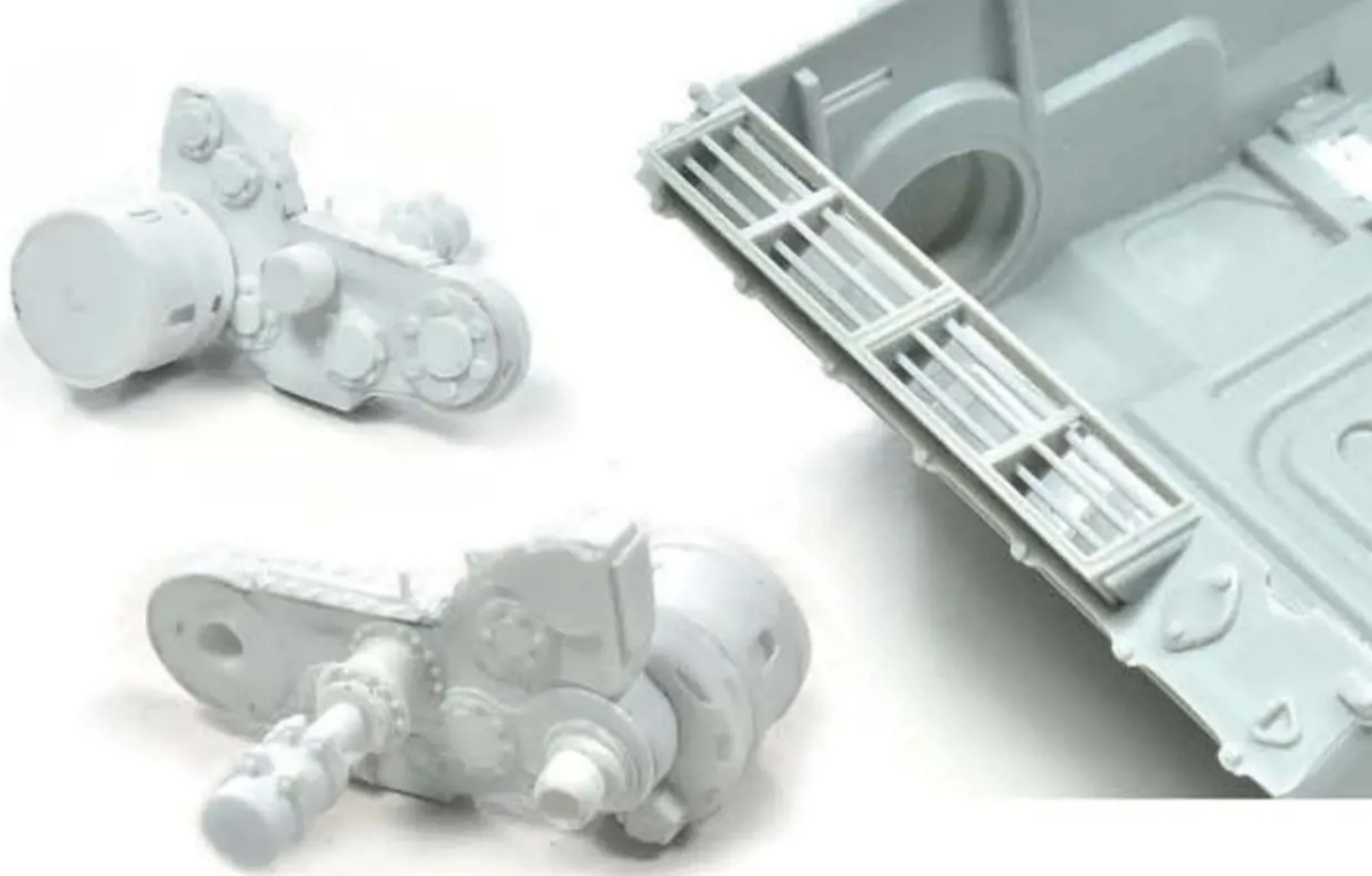
I started by preparing the lower hull. I knew the suspension would be sagged because the torsion bars are softened by the heat when tanks burn out and they tend to sink down onto the ground. In addition I knew I would be depicting many of the tyres burned out, so I set many of the swing arms to show it collapsed (above), this was easily done by adjusting the pegs on the back of the arms (Left).

Inside, I needed to show some of the torsion bars. At this point I did not know which ones would be visible when I was done, so I just did them all. I also showed the belly armour split and cracked. This is extremely common on destroyed T-72s where the ammo has cooked off but, again most modellers miss this.

I decided to start the interior with the engine. The Meng engine (SPS28 Russian V-84 Engine) is really nice, and goes together very well. All it really needs is a little wiring and some small scratch details.

Building the engine first, meant I could locate it. lining it up with the exhaust outlets, which in turn enabled me to work out dimensions for other elements in the engine bay, using plans and drawings.



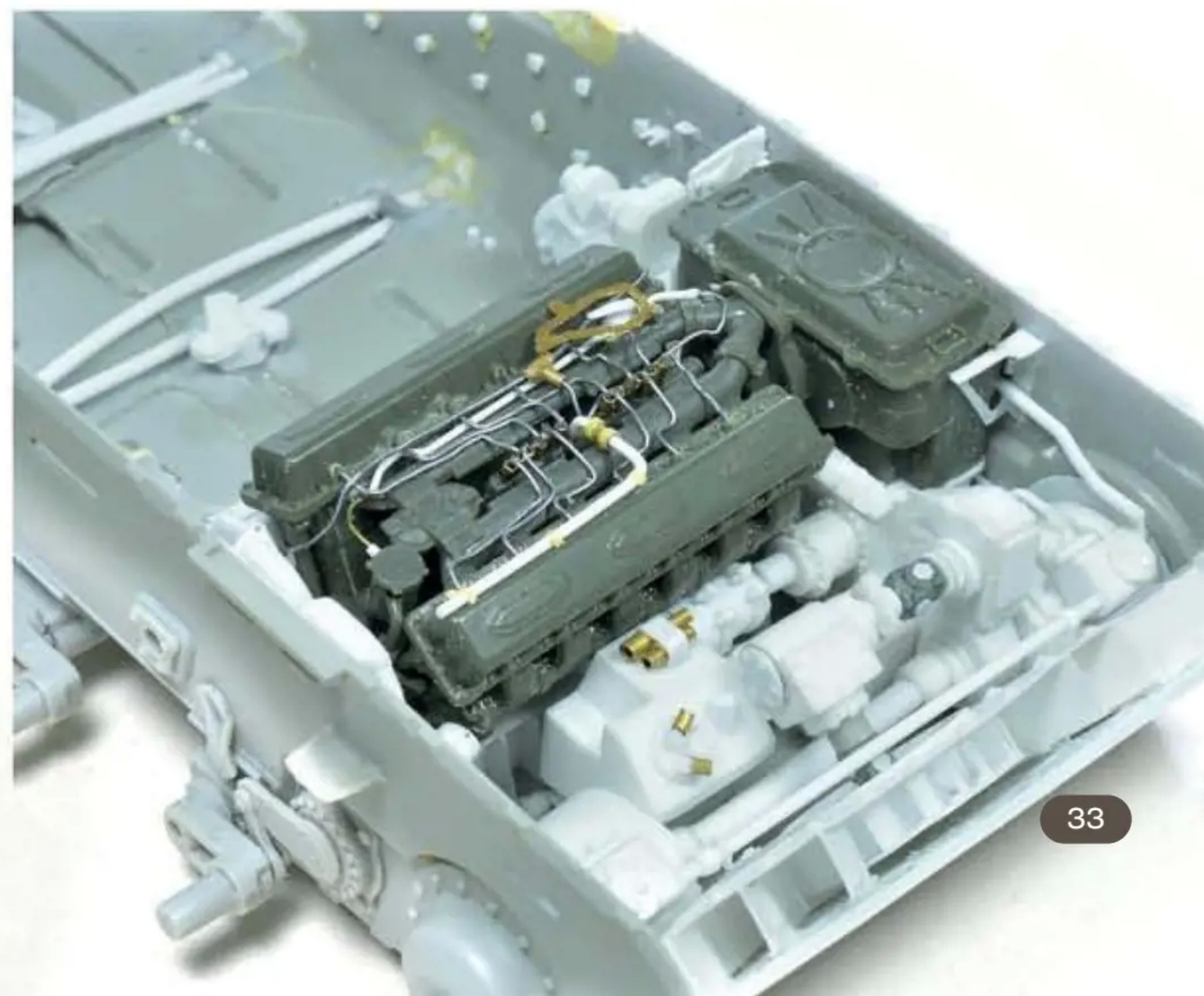
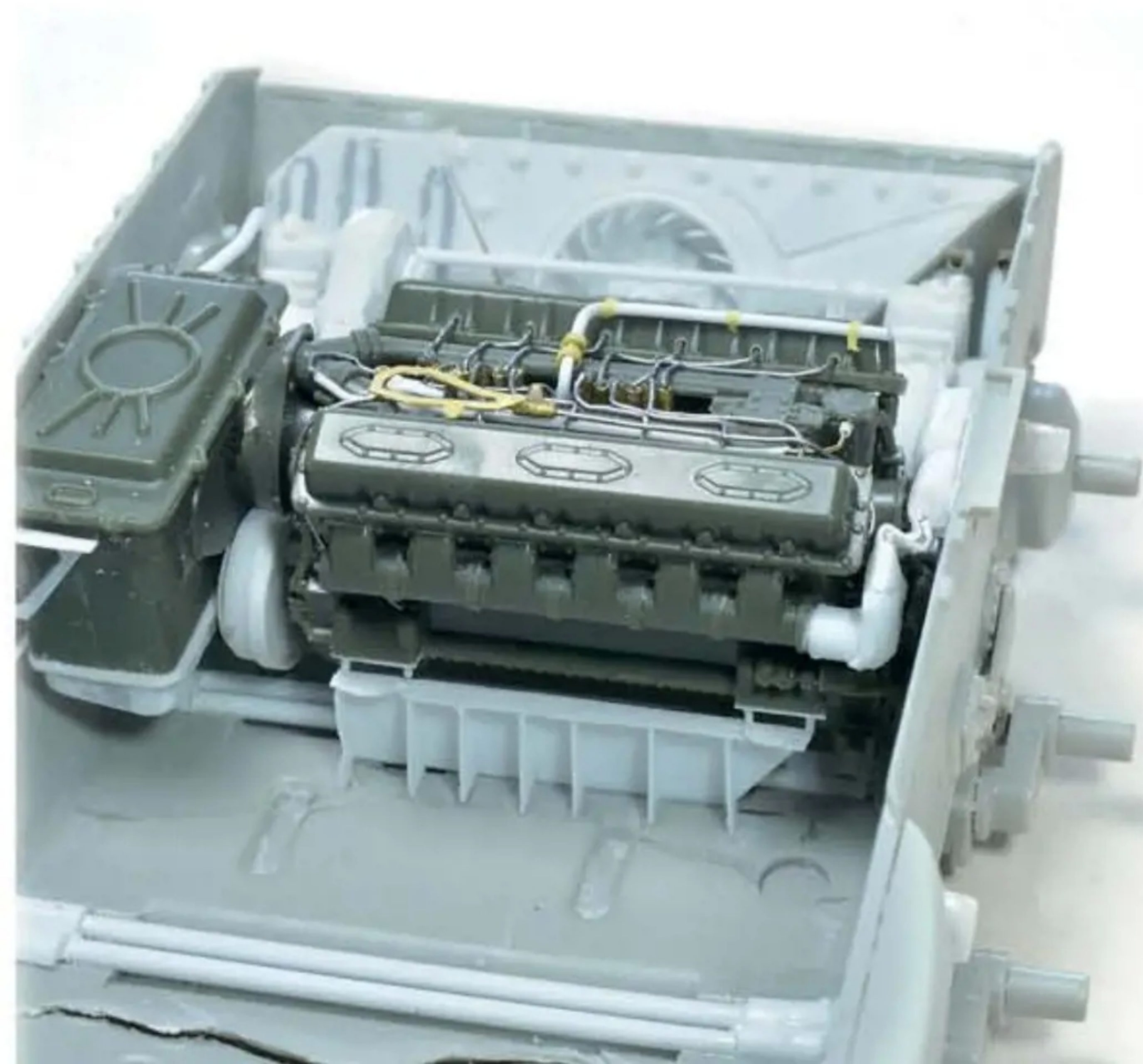
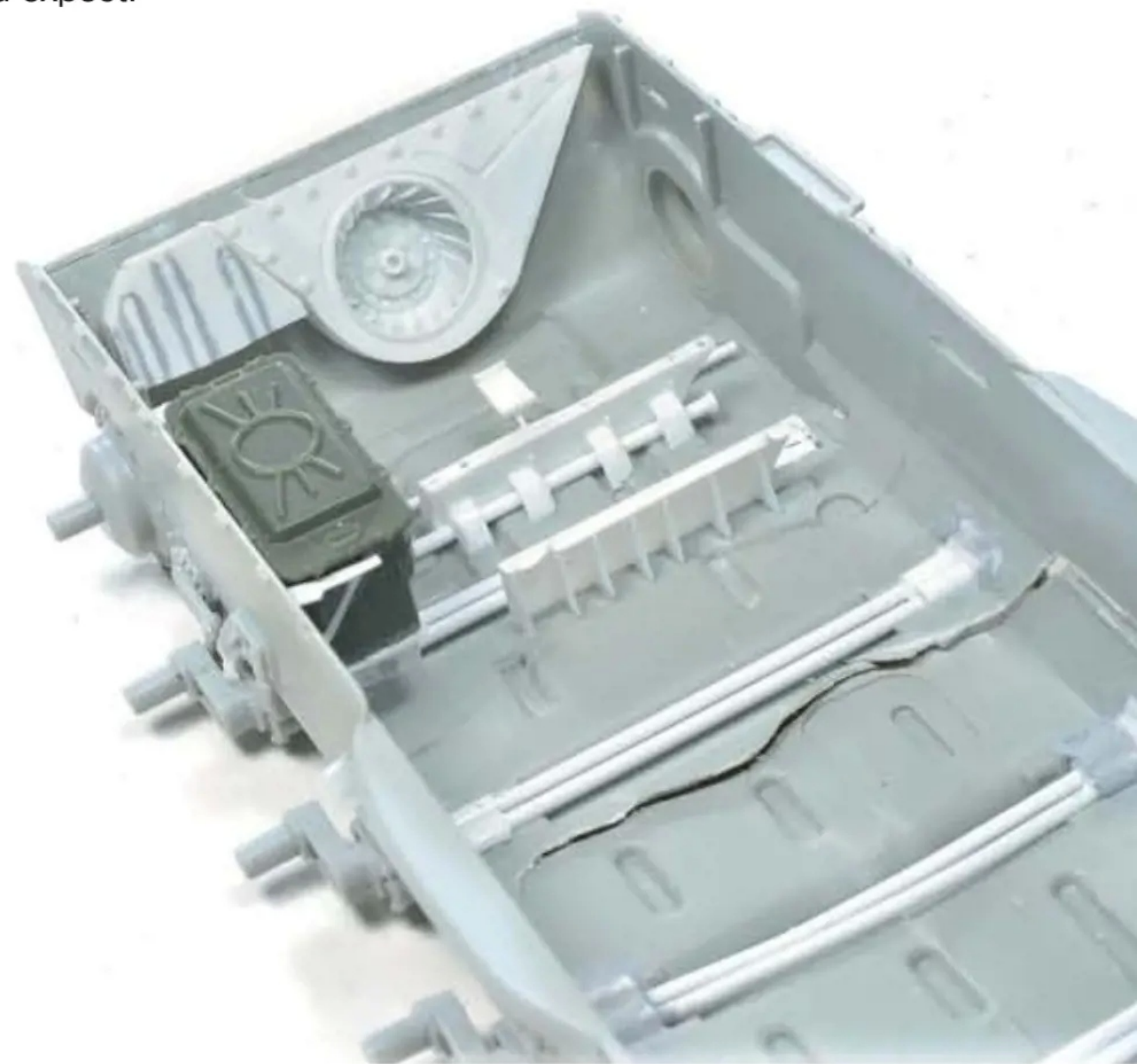


The next big element I decided to tackle was the fan. Again, this can be located by the air outflow louvres at the rear. The hardest part to scratch was the fan. For this, as with the MT-LB, I drew the parts on the computer and cut them with a Silhouette Cameo. The strengthening ribs on the box next to it were made by shaping strips of styrene with a sanding stick and blending them in with Mr. Surfacers.

I spent some time working out the correct ducting from the fan for the cooling, then realised the air outlet louvres on the Trumpeter kit were solid! So I drilled them out and thinned the ribs so that you could see into the cooling system through them, as you should be able to.

The next big elements were the final drives and gearbox. I built these from discs around a central rod, then added more rods on the outside and wrapped them with a strip with the cooling holes cut from styrene sheet. It took a lot of Googling to get info on the gearbox, because I could not find a model name or number for it. But eventually I did find some photos and one of them was a square-on plan photo, which enabled me to get the correct shape. After that, it was just about adding details. Next, I needed to add the engine mounts and brackets for the air filters. This was somewhat easier than the rest as there are some good photos on line of T-72 restorations and engine changes. I made a template to drill the holes for the exhaust outlet. The exhaust pipes were made by building up strips of styrene sheet for the flat parts and wrapping them in thin sheet for the rounded edges. You could fill the sides and sand them round, but it is easier, and gives a cleaner result, to simply skin them with 0.2mm sheet.

I placed the engine on the bearers, but did not seat it properly, I want the engine to have jumped its mounts a little. If you look at enough photos you will see many where the engine has blown out of the hull entirely. I didn't want to go that far because, frankly, I knew many people would not find it plausible, but I wanted to nod to it so I decided to have the engine shifted by the explosion. The rest of the engine compartment was tricky, a lot of small detail exists in there that is difficult to research. It is worth looking at the instructions for the Amusing Hobby kit and cross referencing with other sources. It's a pretty complex area and very tight, as you would expect.







The escape hatch is missing in the floor. It had a raised edge around its perimeter which meant I could add that without having to scribe the hatch in. I cut this and added it, then added the handles on it from sheet and stretched rod. Unsurprisingly, a load of ammunition exploding and a resulting fireball, makes a mess of everything inside the tank. Not least of which is the ammunition stowage. In photos the ammo carousel under the turret seems to more or less vapourise, but I made the rack in front of it, to the right from styrene, then used a set of burrs to shred and explode it.

Next, I worked forward of the turret basket area on the driver's compartment. This is one of the easier areas of this model to scratch, simply because it is of the most widely documented areas of the interior, and much of it is the same from model to model of the T-72 (with mostly minor changes). The two big fuel tanks were first. The port side was a pretty simple box, the right side was a little more complicated with cut outs for various electrical and control boxes.

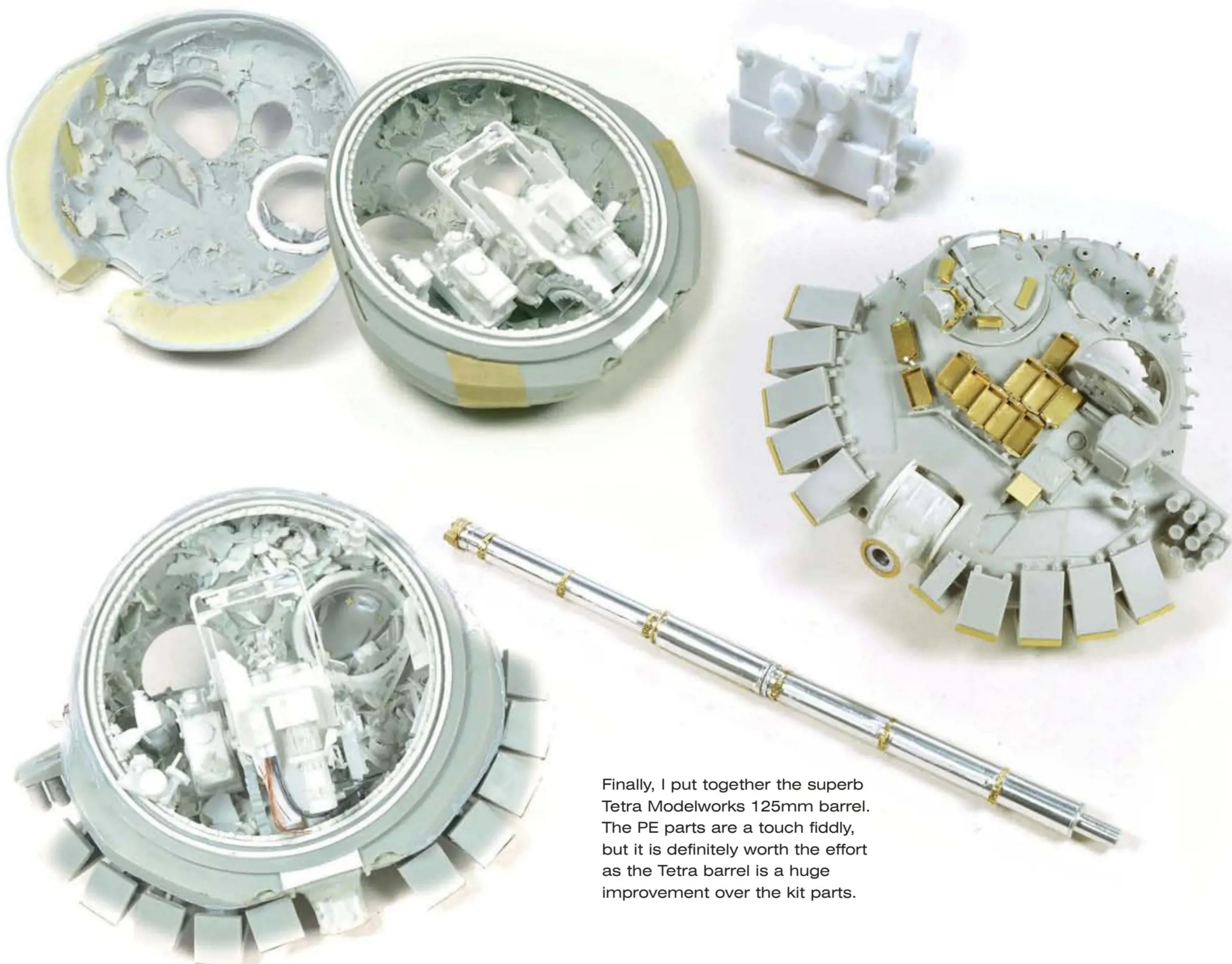
Diagrams of the fuel and electrical systems can be found online, and will help a lot here.



There should be anti-radiation panels inside the tank, but photos show they tend to burn away, so I covered this by added the securing bolts and washers using rod and discs punched with an RP Toolz rivet punch. There is ducting and pipework from the tanks to the engine. I used Albion Alloys aluminium tube for this. It is easy to bend and kink to replicate the 1:1 versions. Next, I had the significant challenge of the internal debris. I needed to make a lot of it. I started with the recognisable parts such as the autoloader carousel parts. These were made with a mix of parts cut on the Cameo and hand scratch. Once the rings were made...

I tore them up!

Other parts were the traverse pivot, parts of the carousel hub, parts of the shell storage tubes and some smaller parts. These looked good, but they just weren't enough for the right look in the interior. This was where I had an idea. I bought a cheap coffee grinder from Amazon, and threw some scrap plastic sheet into it and ground it up. This produced some great looking small irregular flat styrene chips in various sizes and serious volume! This could then be scattered inside and moved around till I was happy, before securing it with glue.



Finally, I put together the superb Tetra Modelworks 125mm barrel. The PE parts are a touch fiddly, but it is definitely worth the effort as the Tetra barrel is a huge improvement over the kit parts.

I now had the option to either finish the exterior of the hull or handle the turret interior, so I went with the latter. Like the hull, I had to start with making the shell correct before adding anything onto it. I knew I would not be using the canvass mantlet cover, but as this is all the mantlet you get from Trumpeter, the hole for the gun is made to fit it. I had to reshape the hole to the correct form, and add the two raised ridges either side.

The T-72B3 turret is, of course, equipped with the cheek bulges for reflecting plate armour protection. I would not be showing these ruptured, but because we are looking up into the turret shell, the shape is obviously wrong because Trumpeter were only concerned with matching the exterior form. I filled the cheeks with Milliput and smoothed it to the correct shape, using the turret base, taped on, to help me form the bottom sides.

I also added torn and damaged anti spalling blankets with Magicsculpt, and used styrene to scratch the inside rotation ring

of the commander's cupola. Now I could start on the interior elements. I started with the gunner's sights. The part number for this is TPD-K1, which should help your searches for reference, there are some good photos available online.

The breech was the next major component and when looking for reference on this one, you can also search for T-90 gun breeches, as its the same gun. The turret interior is again, well documented and things like the traverse controls and other boxes are not hard to research. I scratched the turret race, then moved on to the outside. I replaced the ERA blocks with items from the Tetra Modelworks set, and used Albion Alloys tube for the mounting posts on the missing blocks.

I also scratched the cast mantlet, using photos of wrecked T-72s from Ukraine for reference.



Before I could close up the hull, I needed to paint the inside.



Quite probably, with so many openings, and such large openings, I could have got away with shooting paint through the turret ring, and driver's hatch. But why risk leaving white styrene where I couldn't get paint to it? Also spraying through holes runs the risk of creating a vortex in the spray, which leads to a grainy, dusty finish. I started by spraying black all over, to create shadow, then used a grey and white to add highlight preshade where light would reach. Thereafter everything was handpainted using a wide range of colours mixed from AK 3rd Gen acrylics, before using some of the ubiquitous Lifecolor Rust liquid pigments. I put the upper hull on, and added PE details from Tetra and the kit PE. The PE came in especially handy with some of the modifications I wanted to make to replicate damage. I started by opening some tool boxes. I used a fine saw to remove the lids from some of the boxes before cutting out the opening underneath and adding the lip back to the box. Finally, the Tetra PE allowed me to add the straps and latches back in I scratched a new exhaust outlet as this was not included in the PE, and replaced the plates on the outside of the fenders to allow me to replicate damage.

The storage boxes and fender-mounted fuel tanks were replaced with scratch parts and then filled with more of the 'debris' from the coffee grinder. I elected to leave off the skirts. I just preferred the look of the build without them, and certainly it's possible to find photos of the B3 Mod. 2016 without them, especially destroyed examples. For the right side fender with the destroyed fuel tanks, I cut it in half and replaced part with scratch to allow me to depict it broken up

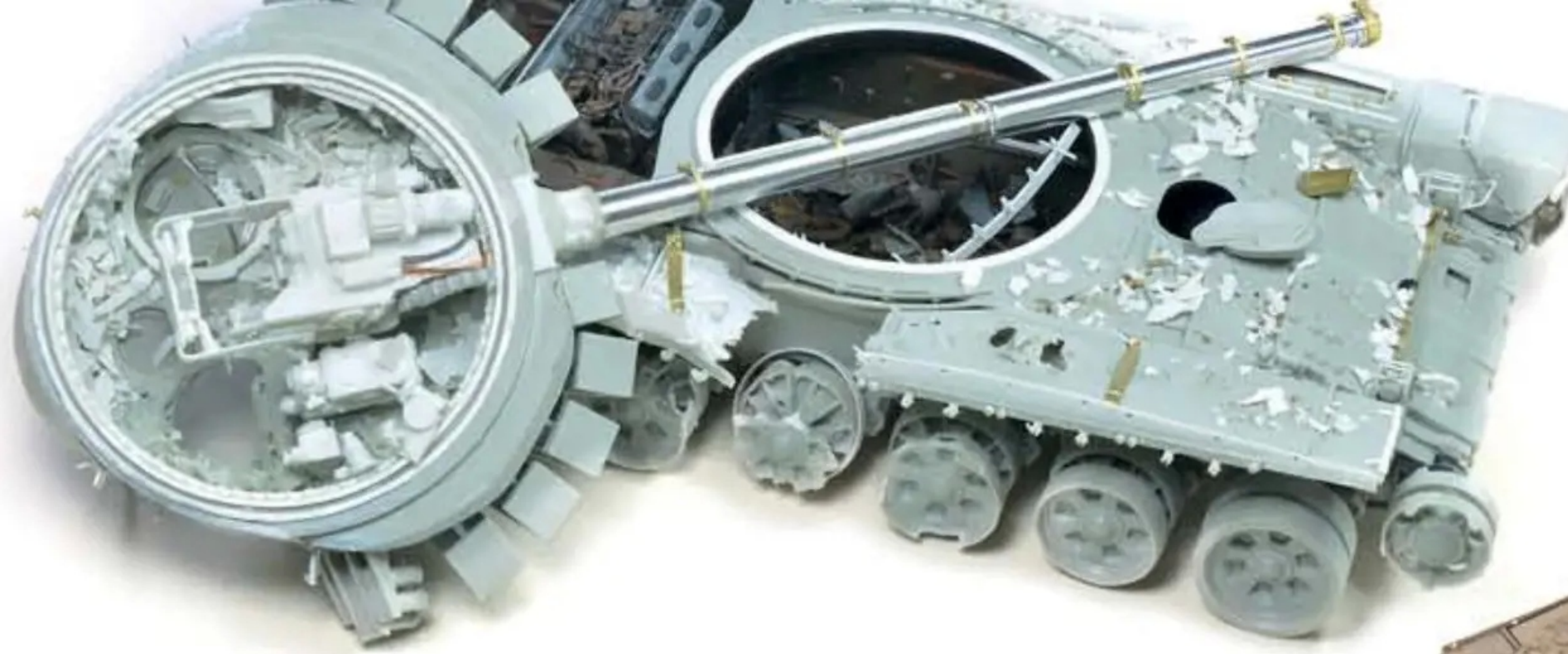
Perhaps the trickiest part of this stage of the build was the turret ring. There is no ring in the kit, so I used a zip tie, with the edges shaved off, to make the toothed ring, and cut two styrene rings of different sizes to complete it. The wheels were a big part of this wreck for me. You can buy really good "Burned out T-72" resin wheels from Panzerart. I even bought some myself, but I wanted to melt and destroy the wheels more than that, so I went with the kit wheels. Photos show that some of the wheels melt in enough heat, and likely they are partially made from aluminium. Luckily the structure of the kit wheels is pretty close to the real ones, so I could show this by hacking up and grinding at the wheels with a rotary tools and burrs. With others, I simply clipped off most of the tyres with heavy side cutters, and finished off the rims with files and sanding sticks.



For some of these I deformed part of the rims with heat. For variety, and to match reference, some were left more or less untouched, with tyres intact.







I masked the hull openings and started with a basecoat of dark grey, then gave the whole thing a coat of SMS Dark Brown (PL115).



I masked the hull openings and started with a basecoat of dark grey, then gave the whole thing a coat of SMS Dark Brown (PL115). Next, I gave it a few light coats of hairspray, and followed that by coating the front end, and areas of the rear, with SMS Forest Green (PL77). This was followed with US Olive Drab (PL167) in select areas, to highlight some features and surfaces, and add some tonal variety. SMS sprays incredibly smoothly, making freehand work like this easy and pleasant to do.

I handpainted the big white 'Z' on the glacis using an offwhite mix of acrylics. Next, I watered down some VMS 'Smart Mud' and applied it to the front, paying attention to areas where it would build up, like around the idler mounts, and in front of the bow vane, I also used an old brush to spatter some over the glacis. I applied some AK Interactive Dust liquid pigments for lighter, dried mud. This is great for this and blends out very easily. It also contrasts very well with green schemes. I also started picking out the debris pieces in various rusty tones. I used more of the Lifecolour pigments to enhance the rusty areas, and used AK Interactive grey enamel paneliner to subtly shade around some details and foreground them,



such as separating the flakes of debris from the rusty hull, and shade recesses. I did not use it in all the panel lines, most of those, especially at the front, I picked out with the dust wash. Finally, I added more spatter. On the rust, I used the rusty tones to add spots of pitting rust. On the green, I used the dust wash, and various shades of brown oils, through to a very dark, almost black one. To make oil colour spatter, I thin oils to about 80% with odorless thinners. This gives very faint spatter that contributes to the overall look without being too obvious.

The hull was more or less done, so I painted the wheels and track next.





The wheels, like everything else so far, were painted black first, then grey, with Tamiya JN Grey (XF-72). Then the Lifecolor rust set was used to rust the 'steel' wheel boss. The idler was painted green, like the hull. At this end of the wheels I wanted them to look relatively intact. But the rim would be steel, polished by contact with the track, but with surface rust. I painted it with AK 3rd Gen. Steel (11210), then used the sponge technique to apply 'rust'



The Trumpeter kit comes with multipart workable track. There is a lot of cleanup, but the result is very acceptable. Once I had it together, I painted it black, then gave it a coat of Tamiya Linoleum Deck Brown (XF-79). For the track rust, I worked from light to dark. I started with the Lifecolor Orange Marks (LPW09), then when that was dry (if you apply wet on wet these liquid pigments blend excessively) I added Eroding Rust (LP08). I finished the tracks with the AK Grey Panel Liner.

Now it was time to put it all together, and here the workable tracks really come into their own, as you can make them fit to the base. I decided to make a small foam base for it, and blend it into that, so that later I could blend this base more easily into the final diorama base. I coated it with VMS Smart Mud, and seated the tank into it properly. When it was dry, I painted the basing black as a blank canvas for the final groundwork later.









# HEROYAM SLAVA!



**CONTINUED IN THE NEXT ISSUE**



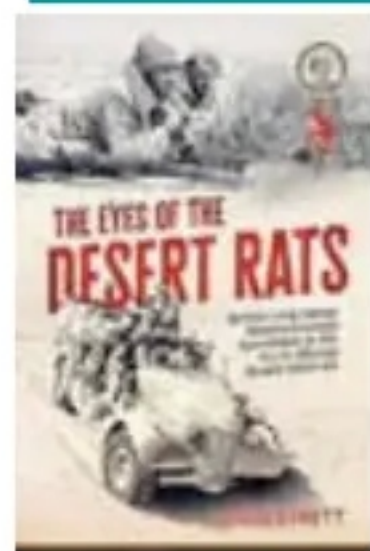






# BOOKWORLD

— wholesale —



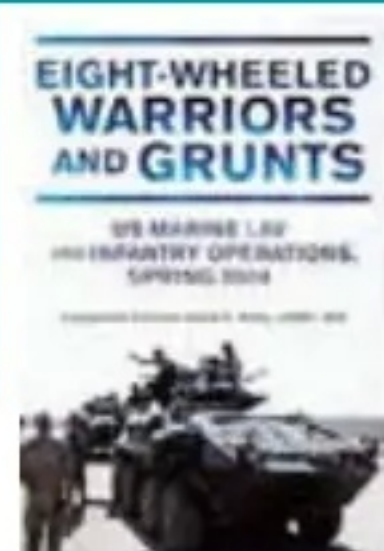
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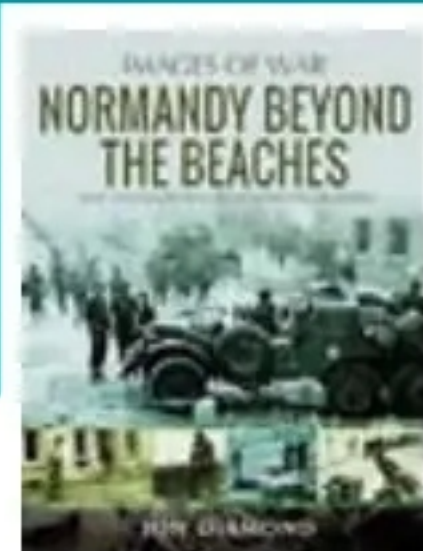
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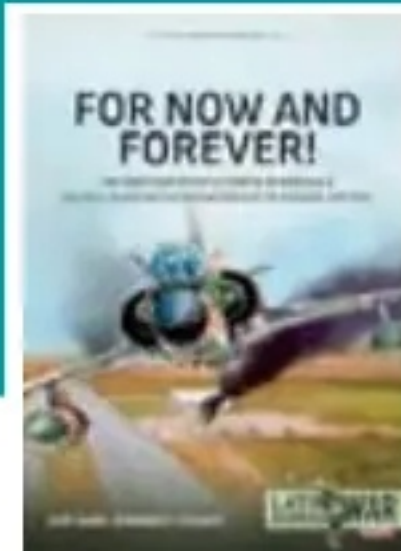
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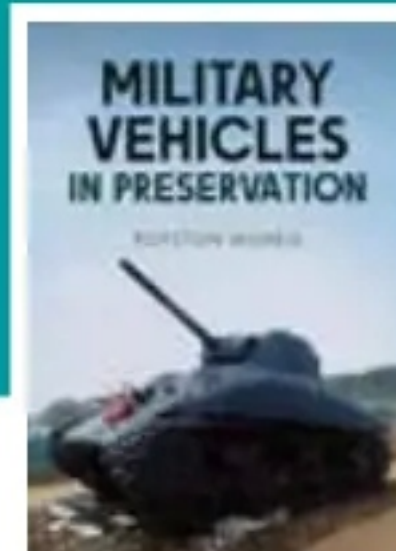
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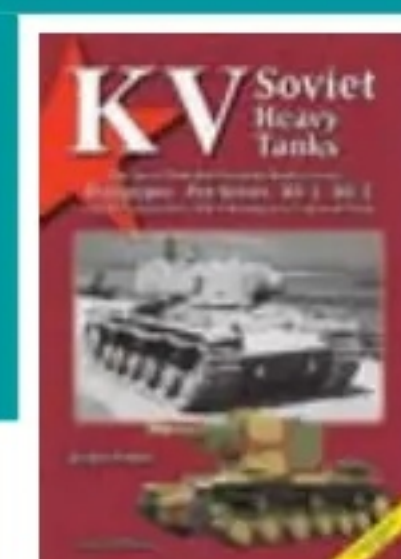
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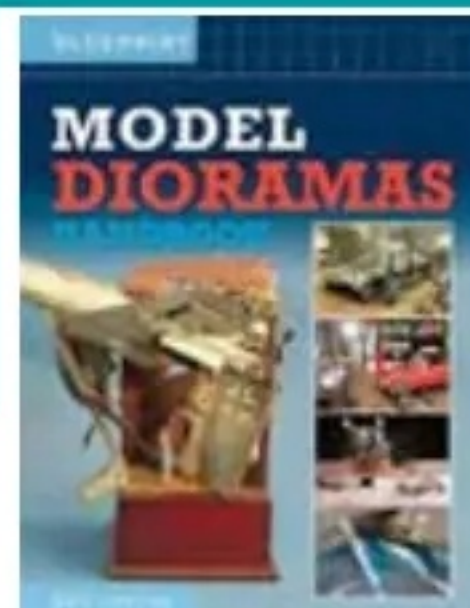
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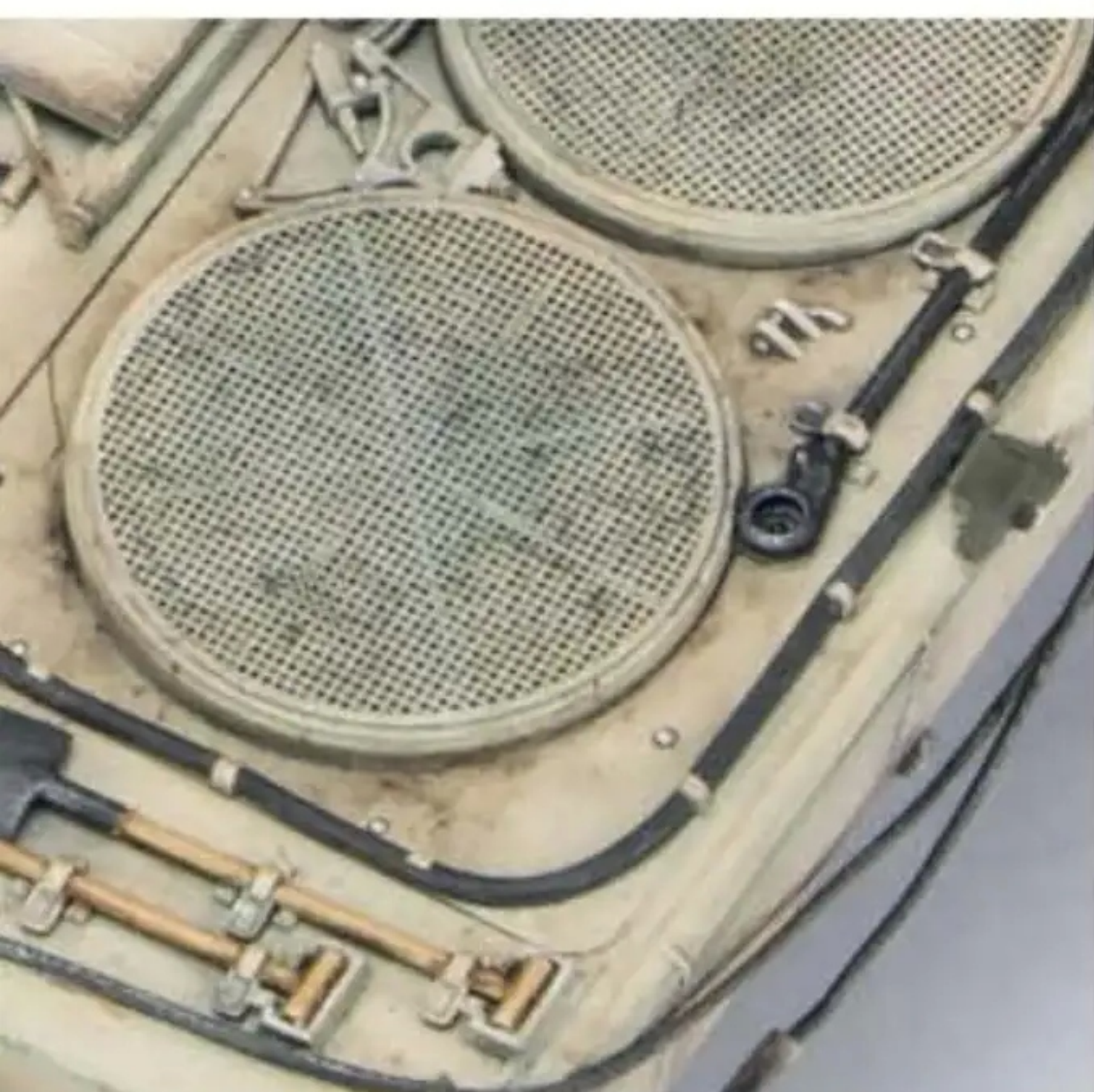




# SNØ LEØPARD



IMAD BOUANTOUN WITH A NORDIC TAKE ON  
THE LEGENDARY LEOPARD





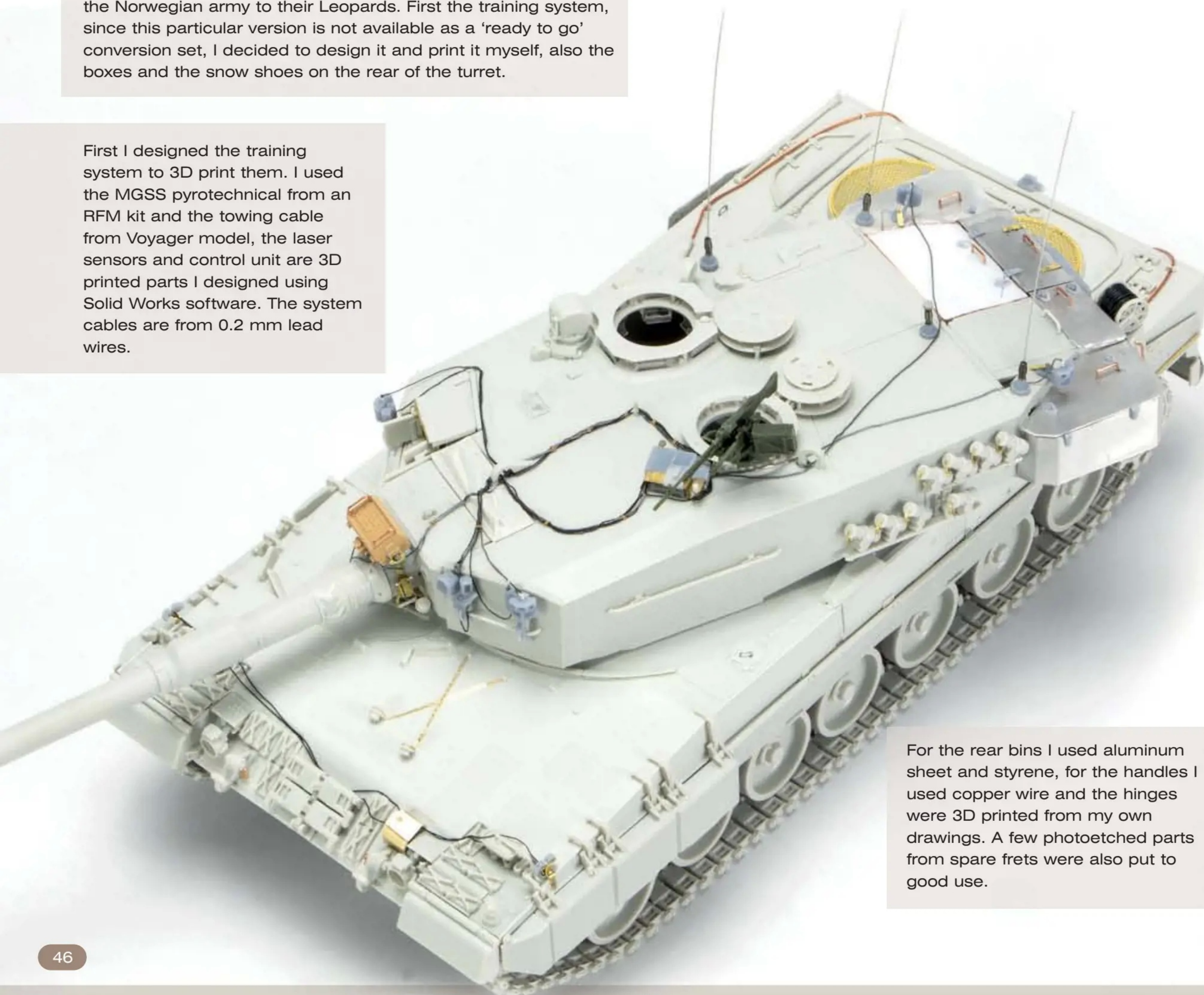
# 2A4

I kicked off this project after having seen some photos while surfing the Internet looking at the Norwegian Leopard during training in Lithuania. I made the decision to work on it as a simple project, rather than a diorama. First, I started doing my research and made a plan to get all the 'stuff' I would need.



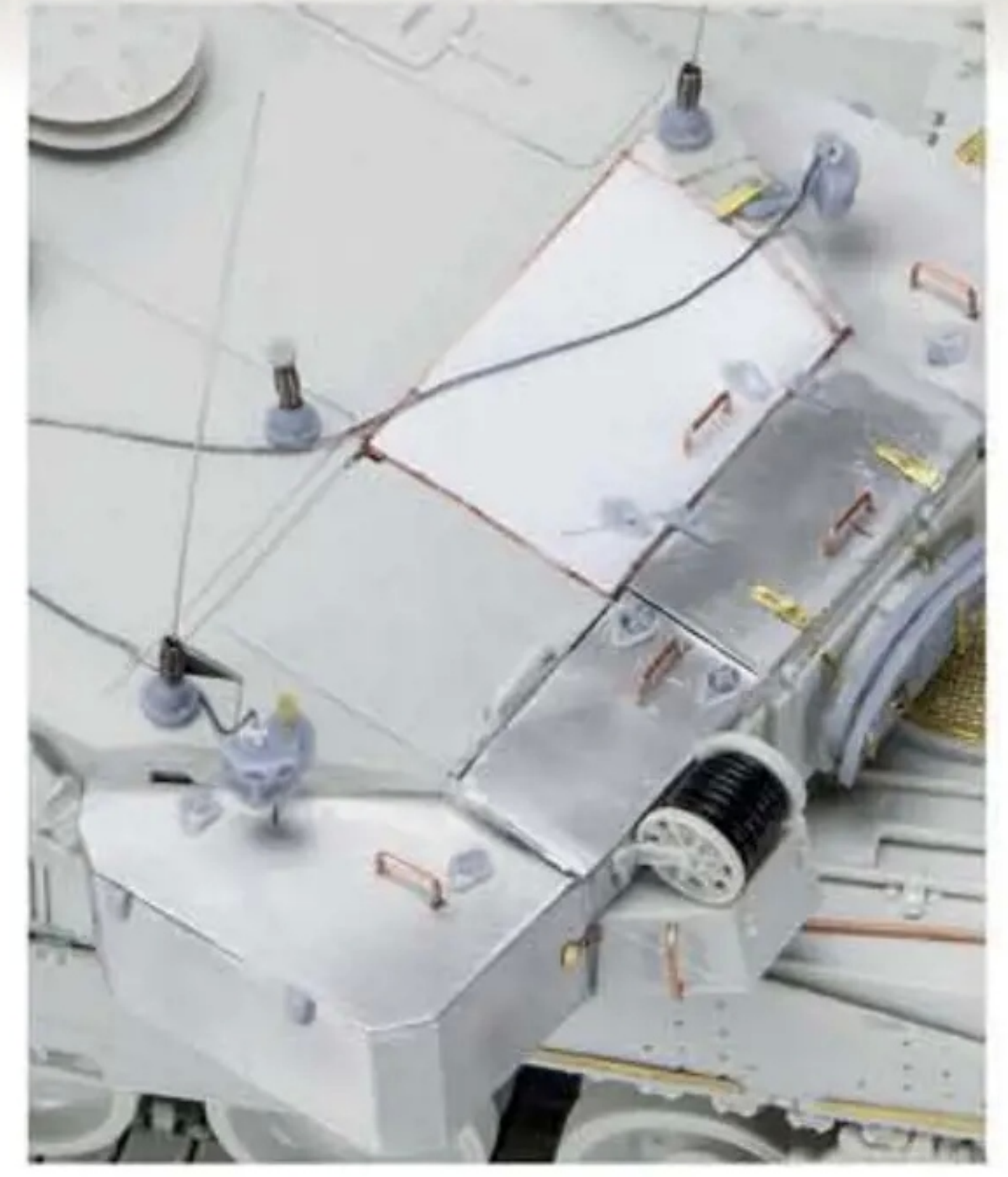
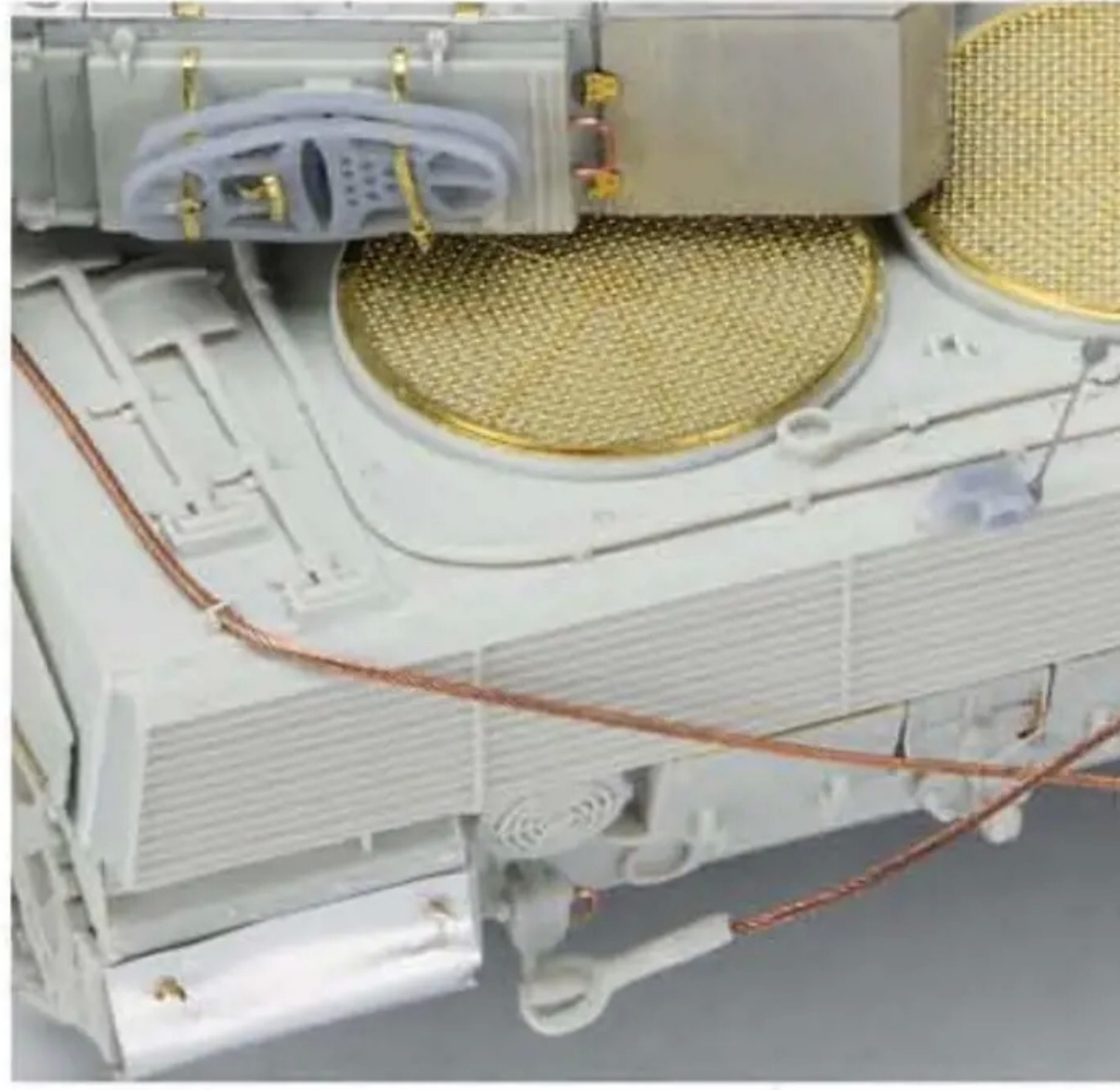
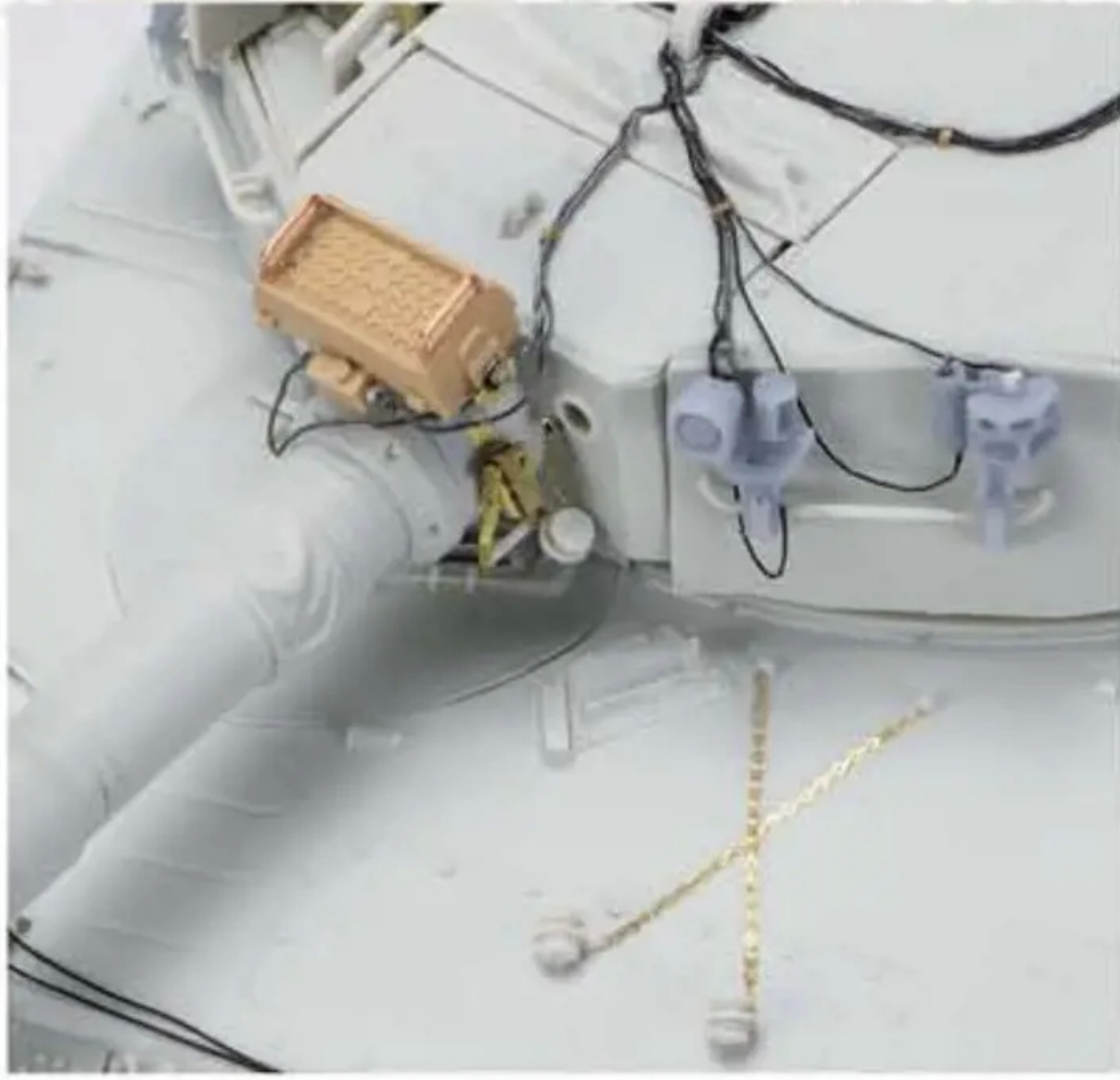
I chose the Meng leopard 2A4 as it's a very good kit. The fit throughout is perfect, and the kit is engineered in a beautiful manner. My only challenge was the conversion parts applied by the Norwegian army to their Leopards. First the training system, since this particular version is not available as a 'ready to go' conversion set, I decided to design it and print it myself, also the boxes and the snow shoes on the rear of the turret.

First I designed the training system to 3D print them. I used the MGSS pyrotechnical from an RFM kit and the towing cable from Voyager model, the laser sensors and control unit are 3D printed parts I designed using Solid Works software. The system cables are from 0.2 mm lead wires.

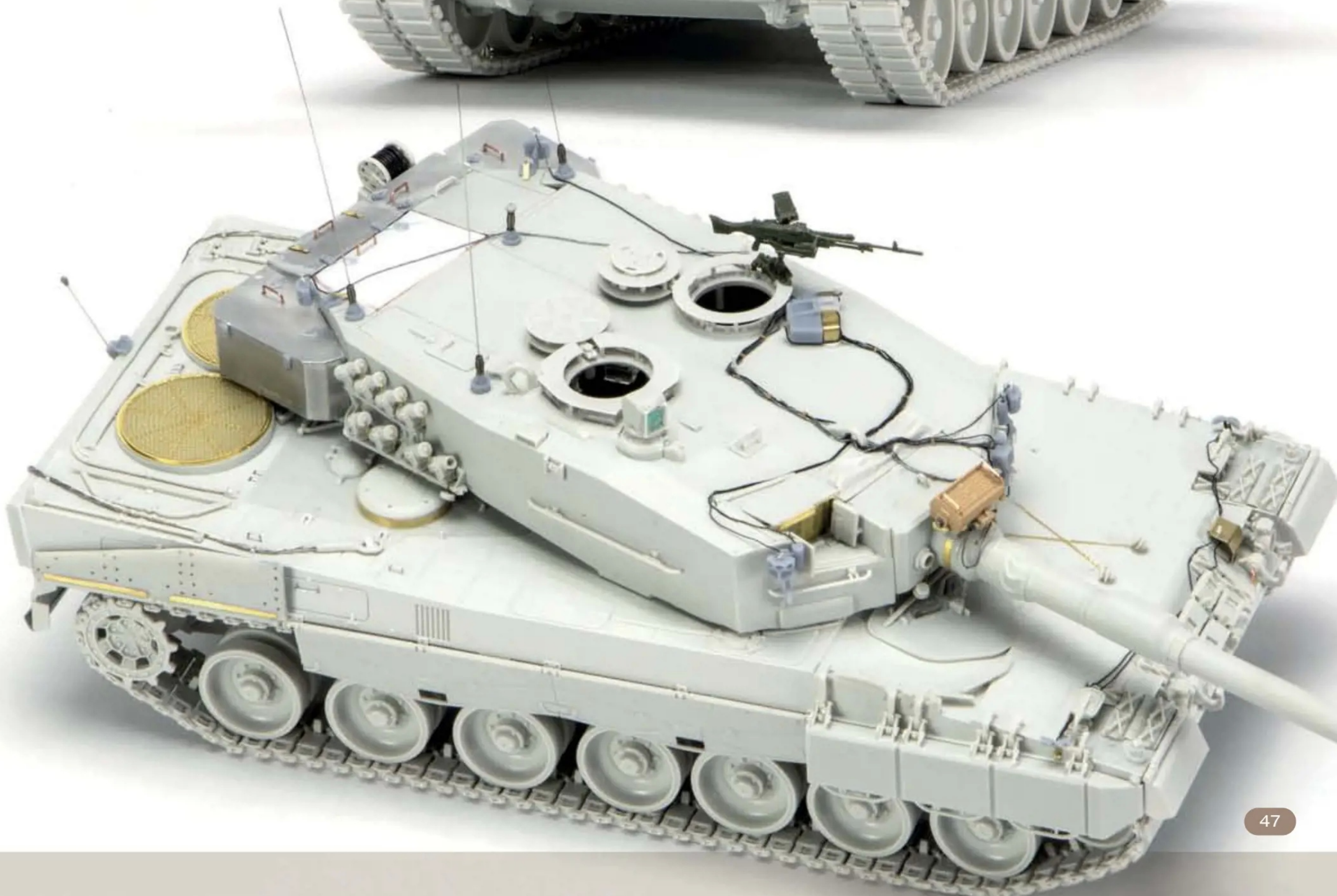


For the rear bins I used aluminum sheet and styrene, for the handles I used copper wire and the hinges were 3D printed from my own drawings. A few photoetched parts from spare frets were also put to good use.





For the antenna I used NATO base set antennas  
from ET model and guitar string 0.3mm  
For the towing cable I used (Karaya) cable 0.8mm  
  
For the FN MAG I used the Meng kit spare sprue.







I started the painting process by applying automotive acrylic primer.



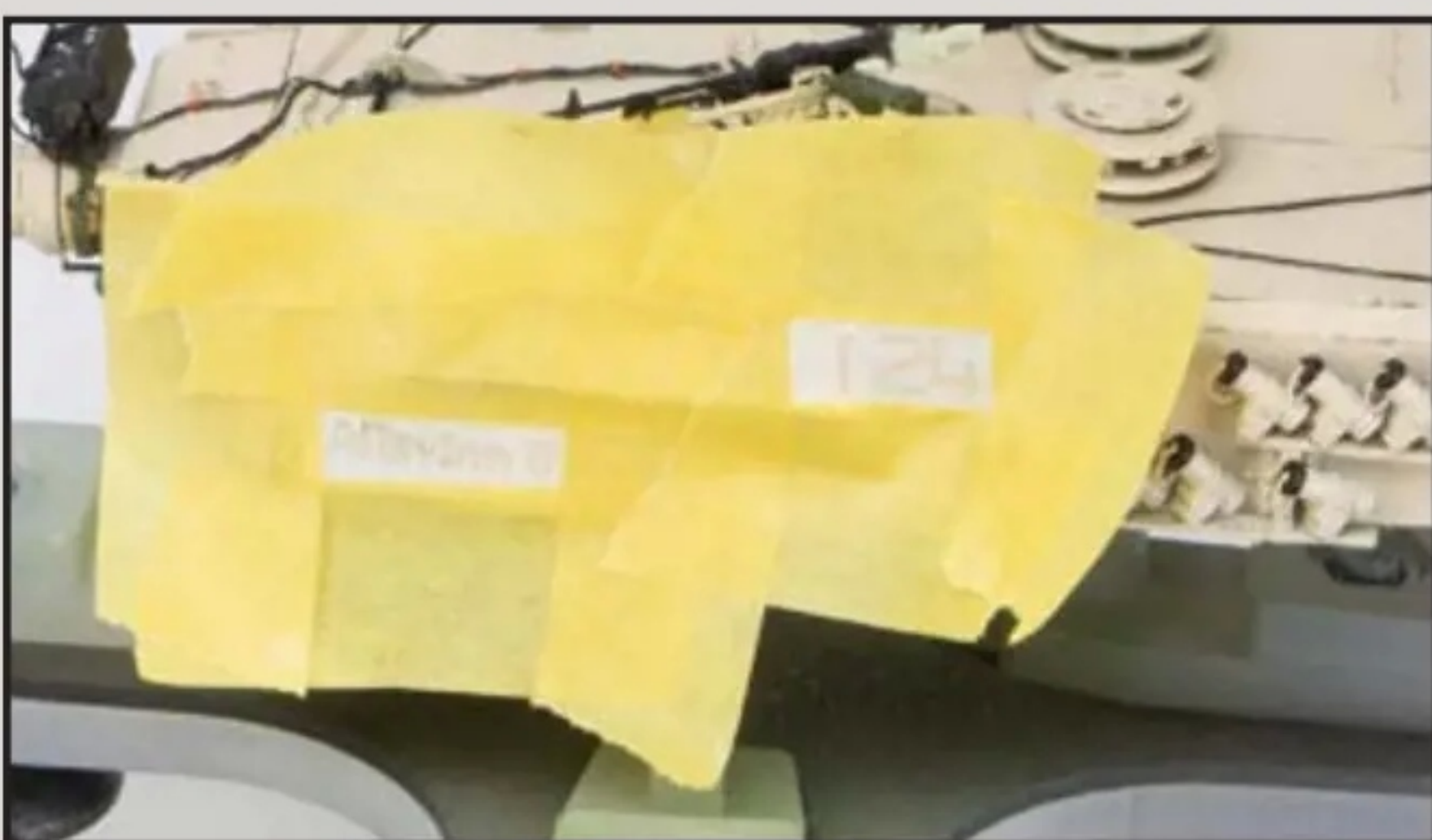
I applied the main green colour using a Tamiya mix of XF5 (70%) and XF49 (30%) diluted thinner 70%.



Next AMMO chipping fluid and a mix of Mr color white 60% + flesh 40%.



As you can see above small scratches are created by wetting the surface with clean warm water and agitating with a stiff brush and pointed tools.



I laser cut the name and the number in masking tape...



and airbrushed them using Tamiya XF83 grey.



I painted the road wheels in different colours referring to some images of the real vehicles.



The tracks received a layer of Vallejo (liquid silver) and for the rubber pad AMMO rubber colour.



After an overall layer of clear satin it was time for detail painting, all done with acrylics.



Echelon's decal sheet T35008 provided the markings required. The Micro Set / Sol helps to soften and set the markings in place.



After 24 hours I applied another layer of satin varnish and now it's time to apply filter using a mix of (khaki 70% and green 30%) oil colour diluted with odorless thinner 70% and 30% paint.



Next, a pin wash using Mig production dark wash lifting all of the fine details and textures.

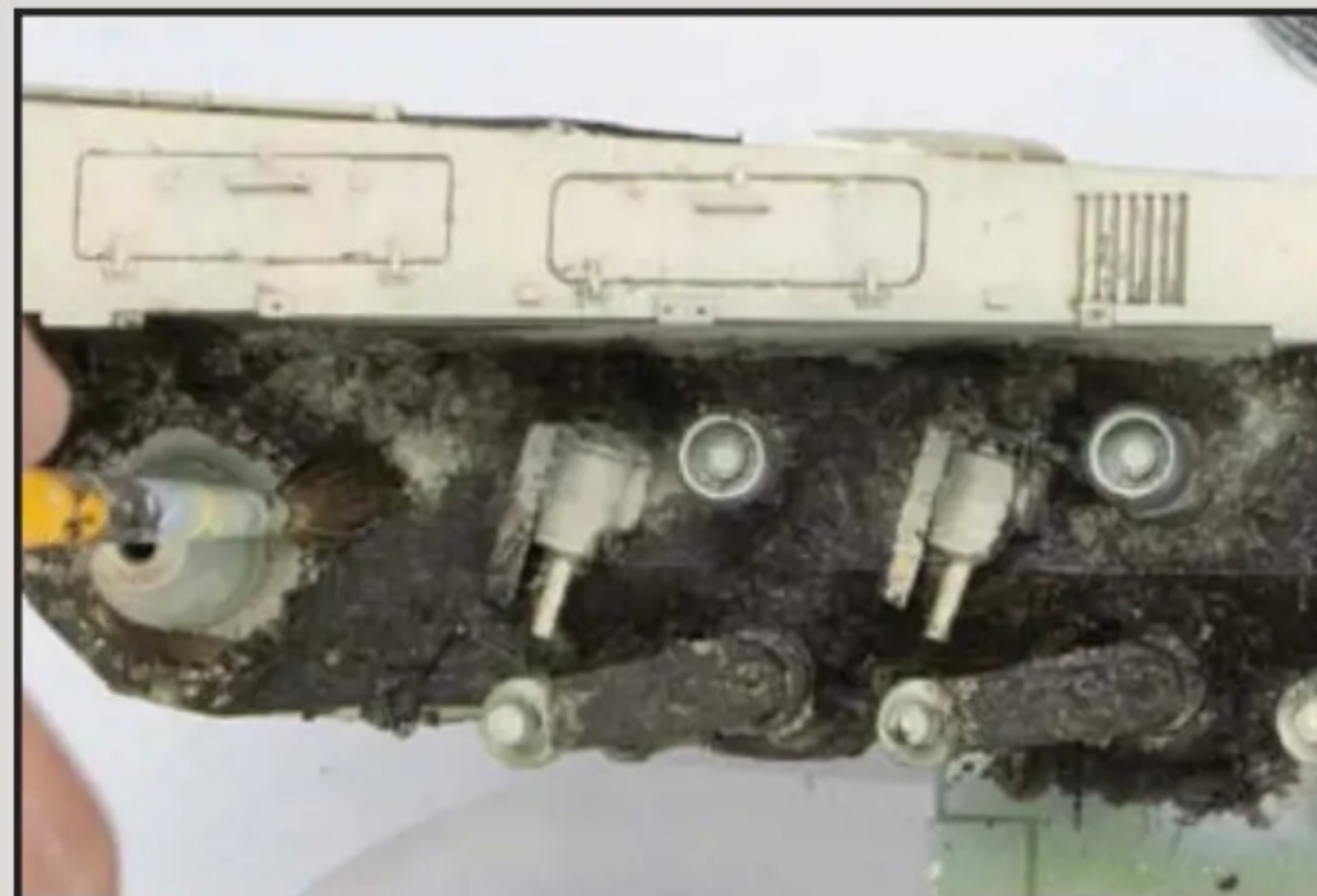


I start the weathering process by applying a layer of AMMO grime for interior.





To create mud on the lower hull I started the process by applying a layer of Vallejo acrylic resin (thick Mud).



To create the effect of dry and wet mud I applied different layers of pigments (Dry mud, European dust) over the acrylic resin.

Note: apply pigment over the acrylic resin before the acrylic resin is completely dry.



To enhance the wet effect on the wet mud I brushed a thin layer of Vallejo water effect over the acrylic resin and on the lower part of mud



Regarding the wheels, I used the same method to create the mud, and I enhance the silver on the nuts using Mr Color aluminum.



I painted the snow pads using rust tones as you can see in the picture.



I enhance the rust effect using sponging more tones to create more variety in the rust colour and merge everything together.



For the FN MAG base I painted the ring base colour using Mr color Aluminum as a start to create the metal effect.



For the oiled, raw finish I use a mix of steel colour and black pigment.



For the wood of the FN MAG I used Raw umber oil colour dragged over a light tan base colour creating a grained effect.



To create variation and grime effect on the tank I use different layers of oil colours as you can see above.



To create the dirt effect on the turret I airbrushed a very diluted thin layer of AMMO engine grime on the lower part of the turret.



To create the dirt effect on the lower hull I also used grime effect on the beige and light dust on the green.



On the towing cable a dry brush layer of Mr color Aluminum on the edges and a layer of Kursk soil wash was applied to create in-grained dust on the cable.



To create lenses for the training module and the rear camera I use UV resin applied in layers, using a UV light for fast drying, then I applied a dust colour wash.









# SNØ LEØPARD







# Alan Ranger Archives

In this series we gain exclusive access to the unpublished images in the collection of long-time Military historian and collector Alan Ranger. Most of the images are from private sources taken by the service personnel in the field or in training, hence the varying quality and lack of date and location recorded but offer a unique insight into lesser covered subject material.

## Sd.Kfz 7

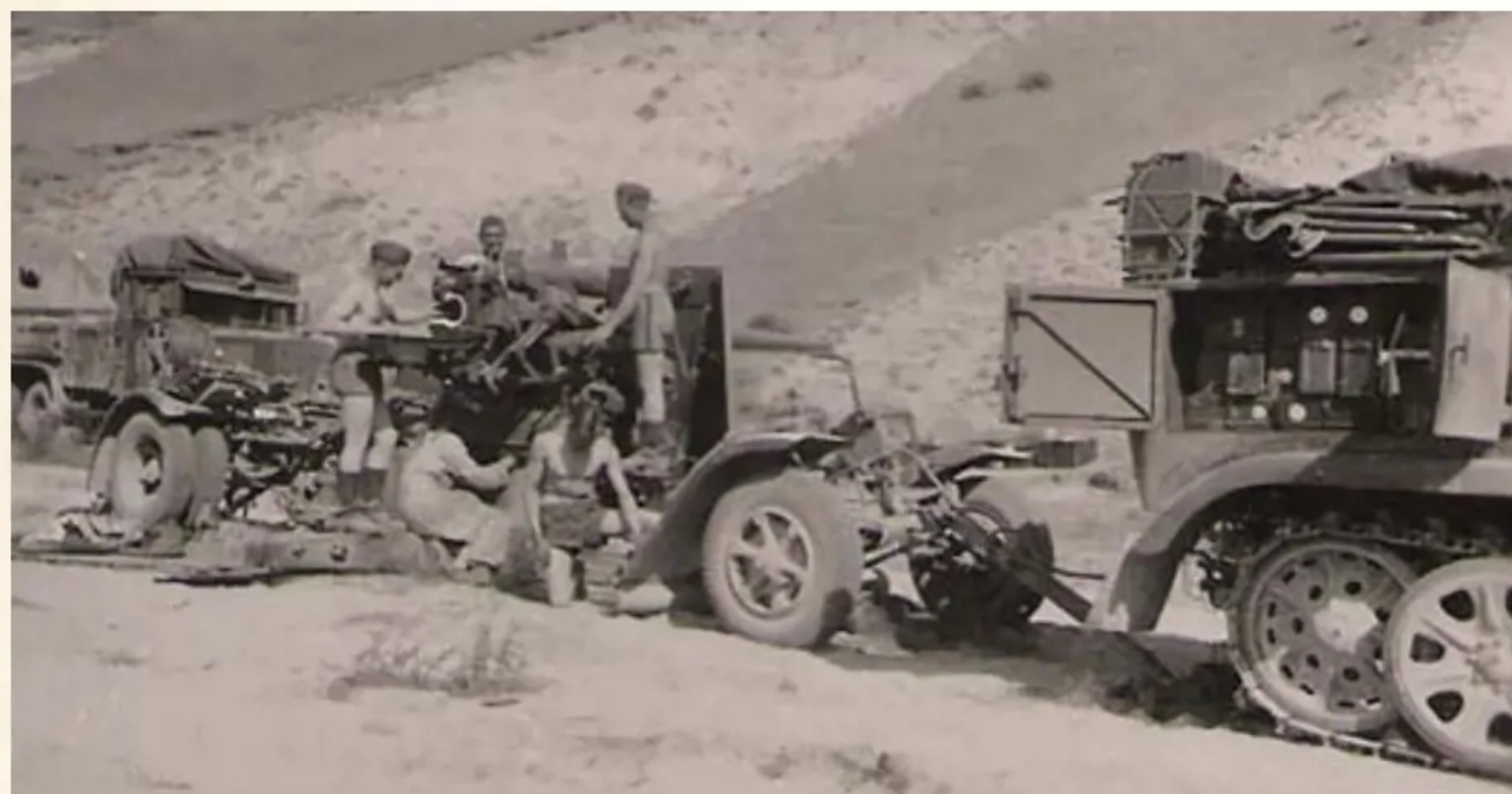
A real Wehrmacht workhorse, the Sd.Kfz (Sonderkraftfahrzeug or 'Special Purpose Vehicle') Seven was developed by Krauss-Maffei in the mid 1930s moving into full production in 1938. Primarily intended to be used as a tractor for the 88mm FlaK and 150mm howitzer it was seen in all theatres until late in WWII and has always been a popular modelling subject.



Here we see an Sd.Kfz 7 being refueled from 200 litre fuel drums. The photo was taken on the 23rd of November 1941 near the village of Andreikovo, Russia, on the route of advance to Moscow by Army Group Centre.



This Sd.Kfz. 7 KM m 11 towing an s.FH 18 is at the halt on a modern street in the Ukrainian town of Donetsk. Note the indifference of the locals, they seem to be keeping a distance but are certainly not in hiding which suggests they have not heard of or had the pleasure to meet the SS/SD units that followed up the advance into Russia in order to "Pacify resistance".



This photograph taken late in the African campaign, somewhere in Tunisia, on 15th November 1942, a few days after the Vichy French had stopped fighting the Allies. Here we see the gun crew of this 88 mm Flak 18 servicing their weapon during a halt in the retreat towards northern Tunisia. The all-pervasive dust formed a grinding compound when it mixed with oil on moving parts, so the guns had to be kept extra clean in order to prevent a misfire or other malfunction. Note the wicker/rattan boxes in the rear of the Sd.Kfz. 7; they each contain three rounds for the 88 mm gun.



A rapidly repaired blown bridge on the route of March for the advance of the German 2nd Panzer Division westwards has collapsed under the weight of the Sd.Kfz 7 combined with the weight of its towed 15cm s.FH 18 field gun. According to notes with the photo the vehicle and its towed artillery piece was recovered from the bridge and back under way in less than 40 minutes, the photo was taken in late May 1941 somewhere in Eastern France.



Here we have a photo from April 1941 that depicts a broken down Sd.Kfz 7 on the road south down the back bone of Greece. According to the photographs inscription on its rear the steering mechanism had failed and it took weeks to both recover the halftrack and fit the new parts this Sd.Kfz 7 missed the remainder of the Greek campaign altogether.



This Sd.Kfz. 7 type KM m 11-9 is seen towing its 15cm s.FH 18 field gun just outside and north of the Dutch town of Enschede, and was photographed in May 1940.





**Above Left.** A gun battery's combined gun crews are queuing up for their meal to be served from a field kitchen. The few that have already been served are looking for somewhere to sit and eat. The location is a gun position just on the edge of a small Russian hamlet on the central Russian front in the summer of 1942. Note the rear stowage basket of the Sd.Kfz. 7 is full of 20 litre jerry cans.



**Above.** A very good quality photograph of a late Sd.Kfz. 7 KM m 9. Note the manufacturer's (Krauss-Maffei) name plate on the radiator cover. This vehicle is seen with its Luftwaffe crew in the hills of Yugoslavia close to the town of Priboj, in current day Montenegro.

Despite the Sd.Kfz. 7 being a very good cross country performer, if a driver took a slope at a shallow angle there was always the possibility of the vehicle bottoming out on the ridge.

As can be seen here, when this Sd, Kfz 7 moving to one side to pass the broken down half-track on the road that is camouflaged with small trees laid up against it that they had come to recover, this crew's own half-track has gone off the road. As the driver did not allow enough of an angle to be able to get both down and up the embankment again, the half-track has become stuck. The crew seen here are no doubt embarrassed that they too will now have to await their own salvation, probably from yet another Sd.Kfz. 7



**Above.** Here we have a Sd.Kfz. 7 KM m 9 at work in Russia during the fall of 1941. The crew are seen attaching a wagons towing beam to the rear towing hitch. Note the position of the rear number plate on the rear edge of the body side panel.



**Left.** This is the same Sd.Kfz 7 as seen before but here we see the whole picture of this at the time modern vehicle getting set to tow a wagon right out of the past. You use what you have I guess and I am sure that this would make a very interesting diorama set up if only someone made an early version of the Sd.Kfz 7 KM m9 series.



A well camouflaged 88mm Flak 36 is seen here being towed through a Polish town in the autumn of 1939. This photograph gives you a very good indication of the very wide turning circle of an Sd.Kfz 7 with towed load one of the few but important disadvantages of a halftrack.



This Sd.Kfz 7 was photographed on the 13th of March 1938 in the suburbs of the Austrian town of Linz during the Anschluss (Germany's annexation of Austria). Note the white painted tactical symbol painted on the rear of the halftrack it indicates that this Sd.Kfz 7 was assigned to a motorized artillery unit.





This is an interesting view of a Sd. Kfz. 7, a vehicle in Russia in the early summer of 1942. Of note is the installation of a wood-burning stove in the rearmost seating area, not an approved or standard addition but I bet the crew were very grateful for it during the winter that had just passed. Note the starting engine heater mounted on the rear bulkhead of the chassis, with its gas tube wrapped around the tow cable rollers.



The last of the breed. A late Sd.Kfz. 7 with a timber rear load bed that combined ammunition stowage in racks towards the front of the wooden section and seating in the rear. This half-track is just one of the many vehicles that were lost in the Falaise pocket in the ultimate defeat of the Germans in Normandy. This photograph was taken on the road from Chambois to Guerquesalles, just south of Vimoutiers, on 18th August 1944.



Photographed on the June 1st 1940 this Sd.Kfz has fallen fowl of an anti-tank mine unfortunately for the Sd Kfz 7 whilst the front wheels passed over the mine without issue the halftrack section did not and being unarmoured as opposed to the mines intended target of a tank the damage the mine caused was catastrophic.



This is the same Sd.Kfz 7 as seen before on a road in northern France along the line of advance towards the English Channel we see a burnt-out Sd.Kfz. 7. The road is still being used by military traffic associated with the invasion, but it has not stopped curious local children from seeing what can be salvaged from the wreck. Both a troop bus and another half-track towing a field gun can be seen in the background.



Photographed whilst crossing the Daugava river in Latvia through a fordable section found by the regiment only hours before south of Jekabpils on September the 26th 1941. This Sd Kfz 7 is towing a 15 cm schwere Feldhaubitze 18 (15cm sFH 18).



These Sd.Kfz 7s are parked up in a shallow river bed in central Holland close to Gorinchem following the capitulation of the west and are being washed down ready to be shipped back to Germany via a railhead north of the town.



With the worst yet to come this Sd.Kfz.7 is seen towing a Bussing Nag 3 ton truck along a muddy road close to Bialystok in eastern Poland, on the 6th of September 1940.



Here we see the need for camouflage in North-western Europe, this Sd.Kfz. 7 is covered with branches and foliage is just about to attempt to pull its towed 88mm Flak 18 up and over a very steep bank as there are no photographs on the rest of the roll of an overturned Flak Gun we can assume that the attempt was successful.





Here we have a very rare beast indeed, the Sd.Kfz. 7/6 of which only 25 to 30 were ever made. It was a specialist vehicle equipped with an on-board large rangefinder of either the types Kdo.Ger. 40, Kdo.Ger. 36 or Kdo.Hi.Ger. 35 dependent upon the equipment available at the time of manufacture. A few were made by both Krauss-Maffei and Borgward under their truck division trade name of Hansa Lloyd.



Seen here crossing the Dnieper River at Kakhovka in the Ukraine, a Sd.Kfz. 7/11 towing a standard 5 ton E5 trailer. Note the pontoon bridge section being used as a ferry as the Pioneer unit did not have enough bridging sections to establish a full crossing. The equipment seen would have been the combined loads of three engineering trailers.



These ferries constructed out of pontoon bridge sections are working on the Shpinhalikha River somewhere in the Ukraine. On the ferry closest to us is a Sd.Kfz. 7 of the 1937 build pattern and on the ferry just behind it is a Sd.Kfz. 2 Radio Car.



**Right.** An interesting photograph of a Sd.Kfz. 7 towing a sFH 18 150 mm howitzer about to go over a German field engineering unit's recently erected pontoon bridge. The crew are in the process of tying down all the stowed equipment, as crossing such a bridge often was a bumpy experience for such a heavy vehicle as this, especially when towing an additional heavy load.



This Luftwaffe Flak unit making its way into France in the summer of 1940 is equipped with Sd.Kfz. 7 KM m 11s of the 1937 build pattern and 88mm Flak 36s. Of interest is the way the crew has used some of the wicker ammunition preparation mats as wall extensions to the vehicle's rear stowage baskets and that the crew themselves seem to be wearing one piece black panzer uniform overalls.



his is a Sd.Kfz. 7 KM m 8 (Baujahr 1935) towing a 150mm sFH 18 Field Gun, across an engineering regiment's pontoon bridge set up across the Kaiser Wilhelm Canal during a pre-war exercise. Note the relaxed mood of the soldiers present.



This Sd.Kfz. 7 is parked up for the night next to the crew's tent. Of note is the nice close-up view of one of the canvas door covers attached to the rear access door of the vehicle and the crew's tent made from buttoning eight ponchos together as recommended in the German army field manual. The two infantry helmets serve two purposes – they both stop water running down the tent pole and also help secure the ponchos to the top of the poles.

**Left.** Seen here manoeuvring in the entrance area of the Magdeburg Artillery barracks, an sFH. 18 of the motorized towing type, offering us a rear view of Sd.Kfz. 7 prime mover it is being towed by. The building behind the truck on the far left of the photograph is the main guard house for the barracks complex.





**Left.** This is an interesting photo of a running repair underway to one of the front tyres of this Sd.Kfz. 7 11 1937 build type. Note the construction of the front wheel, a central spoked hub that the inner and outer wheel rims bolt on to sandwich both the tyre and inner tube in place. The freshly repaired inner tube has been hung over the width indicator to test for leaks

**Below.** As the Russian autumn sets in and the rains begin already this Einheits-Diesel is in need of being towed through the mud that is only going to get deeper and heavier as winter draws on until it freezes solid and the short time of mobility resumes until the snow begins. The truck is being towed by an Sd.Kfz 7 of Army Group centre and was photographed in September 1941 sadly I have no location.



A classic demonstration of the cost of losing air superiority. In this photograph we can see two s.FH 18 howitzers and their associated Sd.Kfz. 7 prime movers that have been all been burnt-out following an attack by Russian ground attack aircraft. This photograph was taken in the late summer of 1943, somewhere in western Russia close to the city of Kiev (or Kiev, as written in German on the reverse of the photo). Kiev was eventually retaken by the Russians on 6th November 1943.



This scene was photographed on 12th June 1943 during the build-up of forces prior to the battle of Kursk that was to start on 5th July. These Sd.Kfz. 7s and their towed sFH 18 150 mm howitzers were caught in the open by Russian ground-attack aircraft. All four guns and the towing half-tracks of this artillery battery were disabled and subsequently destroyed by the resulting fire.



A difficult situation for this KM m 9 as its front wheel has slipped into a drainage culvert and as the suspension at the front was free floating, the wheel has dropped a long way. Note the steering column that is attached to the wheel hub that has stopped it dropping further. This would have taken a while to dig out.



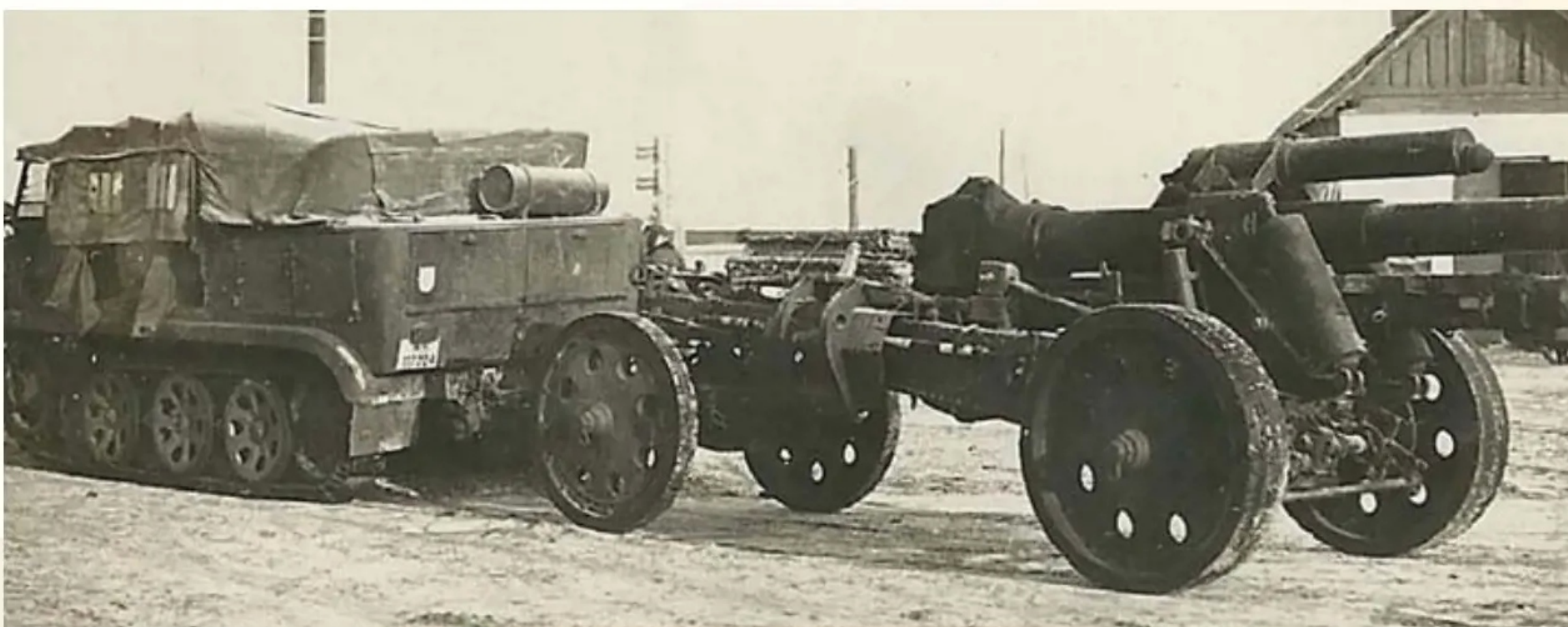
This Sd.Kfz.7 HL m 11 1942 build is seen making its way down a road in Yugoslavia close to Zagreb during the winter of 43/44. Note the presumed prisoners hanging onto the outside of the vehicle – they are doing so in order spot for both mines and other obstacles, as the windscreens of these vehicles were not heated in any way and steamed up very easily.





This Sd.Kfz. 7 towing an s.K18 105 mm howitzer is seen fording the river Bzura close to the Polish town of Łowicz during the 1939 invasion. Of note is the German combat engineering crew to be seen all over the destroyed bridge sections, evaluating the remains so that they can formulate a plan to repair the bridge in the fastest way possible.

**Right.** Here we see a Sd.Kfz. 7 from a mobile artillery regiment towing a sFH 18 50 mm howitzer through a small Russian village, somewhere on the route of a railway line as witnessed by the number of telegraph poles seen in the background. This photograph was taken on 29th January of 1942.



This Sd.Kfz. 7 is seen in November 1941 somewhere in central Russia. Of interest here is the raised subsection window on the driver's side of the windscreen and the plywood improvised radiator cold weather cover to help keep the engine temperature up. Lastly of note is the amount of horse-drawn transport in evidence that the German Army were still reliant upon.



This Sd.Kfz. 7 seen in Russia in the winter of 1942/43 is in the process of loading a broken-down truck onto an Sd.Anh. 115 recovery trailer. The combination of a half-track and heavy recovery trailer was a big success and it became the norm. The large wheeled vehicles that had been originally designed to tow these trailers, such as the Henschel SS100, were often relegated to other duties. Of note here is the wet weather gear fitted almost in full, only the passenger's doorway cover is open – it is attached but only to one side.



Over the years I have seen many photographs of the German Army being welcomed as liberators by the populations of villages & towns in the Baltic states, Lithuania, Latvia and Estonia, and this photograph I think is one of the very best. It shows the residents out in force to welcome the German army unit, seen here when they first arrived. Disgracefully, the Einsatzgruppen death squads that followed up weeks after the army pushed through, arrived and dispelled any illusions of liberation in a vicious and terrifying way.



**Below.** The advantages of the old school methods! Here we find a column of Sd.Kfz. 7's towing artillery to toward the front parked up at the side of the road awaiting a fuel truck to refill before they can resume their march to the front. However lack of fuel is no object to the horse drawn supply wagons passing the halted mechanised column in fine form. The photo was taken in the area of operation of Army Group Centre in the winter of 1942/42.

This convoy of heavy recovery vehicles is photographed in the Ukraine in the spring of 1943. The two lead vehicles are both Sd.Kfz. 7s whilst the following third vehicle is a Sd.Kfz. 9 Famo. The large thatched buildings in the background are of interest and must be in the suburbs of some larger town, but sadly I have no information as to where.



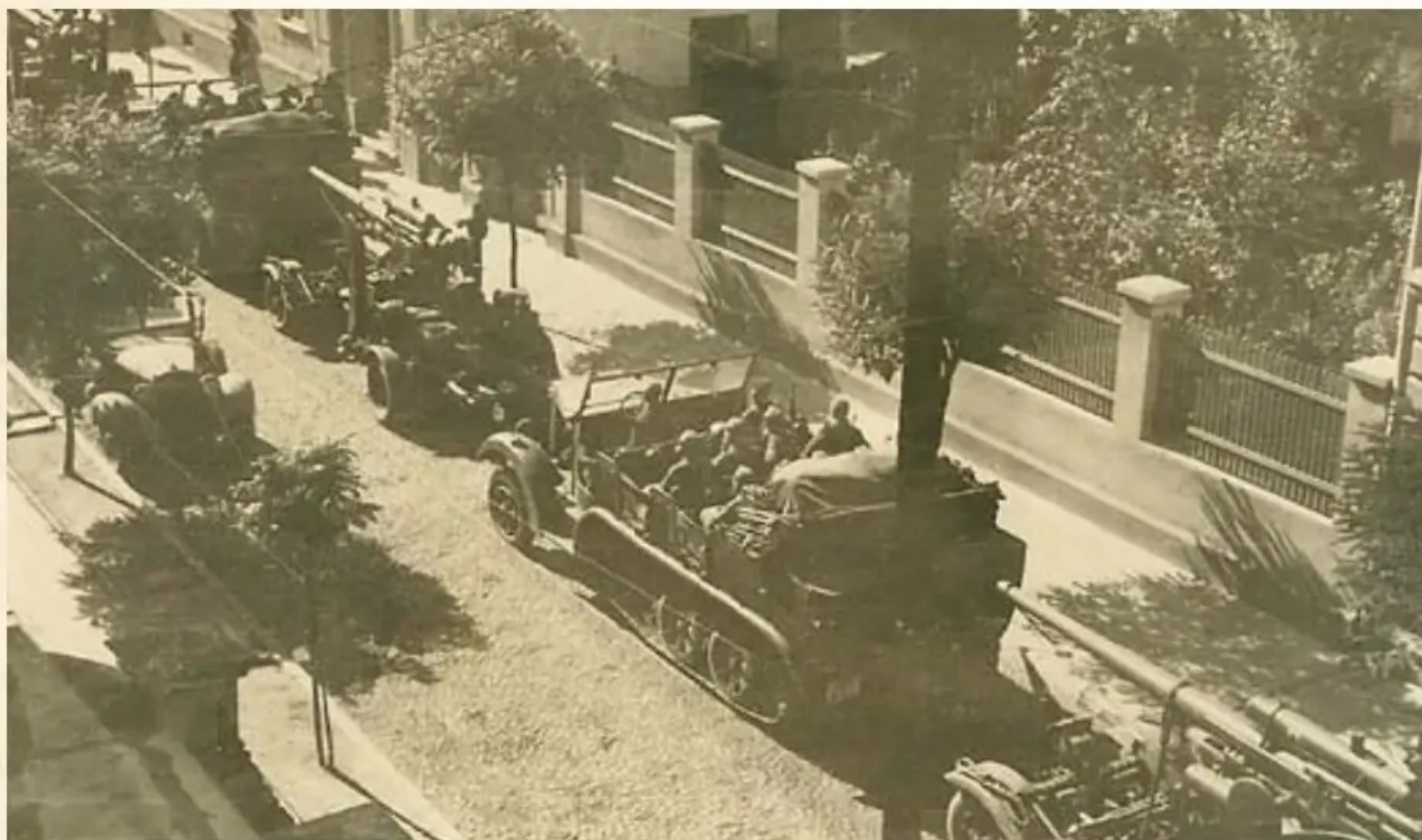




Taken on the 5th of June a day after the final surrender of Dunkirk here we see a group of French prisoners that had been part of the rear guard left behind to ensure the safe evacuation of many of their comrades brave men indeed! The Sd.Kfz 7 parked on the far side of the road is towing one of the specialized bunker buster versions of the 88mm Flak 18. Note the oblong canvas cover projecting from the rear of the gun shield this covers the ready ammunition locker that held 6 rounds.



This early Sd Kfz 7 is undergoing engine maintenance in a French farm yard commandeered to be a repair base for the 6th Panzer division during the latter part of the campaign. The photo was taken on July the 4th 1940 East of Paris



This Luftwaffe Flak unit tows their 88mm Flak 18s through the streets of Gent, Belgium, during the advance against the western powers in May 1940.



Seen here broken down on the side of this mud road on the road to Minsk during the Battle of Bialystok-Minsk, the photo was taken on the 27th of June 1941. Minsk finally fell under German control on the 30th June only 3 days later. Note the canvas cover protecting the folded down windscreen and the removed one piece engine top cover panel beheld up by one of the crew in front of the vehicle.



In this clear side view of an Sd.Kfz. 7 KM m 11 that is seen climbing down from an embankment at the side of a road we can see the maker's plate that is located on the firewall covering panel above the main drive wheel, also visible is the stencilled-on shipping data on the side panel just behind the driver



This Sd.Kfz. 7. KM m 11 is hitched to a 150 mm schwere Feldhaubitze 18 (s.FH 18) in a nice clean wooden garage in the grounds of barracks in Berlin, Germany. Of note is the Austrian military pattern Truck parked behind it, no doubt commandeered from the Austrian army during the annexation of Austria on 12th March 1938, the Anschluss.



In the same commandeered French farm yard as mentioned earlier on this page we see maintenance crew giving the tracks of an Sd.Kfz 7 a thorough going over no doubt cleaning the tracks replacing all the damaged Greece nozzles and lubricating all the as required this took quite a while and was the most time consuming regular maintenance task on the normal crew task list and was rarely carried out with as much diligence as it should have been hence scenes like this.







An infantry unit is seen marching passed a wrecked Sd.Kfz 7 that has been pushed off the road after being destroyed by an aircraft the day before obviously it was assessed as being unfit to be repaired and was pushed off the road an abandoned as scrap. Vehicles such as this however were visited in the autumn of 1940 by a clear up unit specially formed from maintenance units tasked with salvaging any useful parts from all the wreckage left after the cease fire in the west no doubt many parts were recovered from this halftrack including the tracks for sure. The photo was taken in the Lille area of France in May 1940.



Here we see a trio of Sd.Kfz. 7s parked up in the main street of Mangombroux, a small Belgian town just east of Verviers, just after the crews have had their lunch in the hostelry we can see in the background. The photo was taken on 14th September 1942.



Seen here towing a 3-ton Opel Blitz hard body truck of a radio command unit through a very muddy patch in a Russian road is a Sd. Kfz. 7 KM 11 of the 1942 build pattern. The Sd. Kfz. 7 is also attached to the communications section of the same Field Artillery Unit, as is shown by the identification symbol on its right-hand front fender. The trucks behind awaiting their turn to be towed through the mud are a 3-ton Borgward and a 3-ton Man Diesel, in that order.



A rapidly constructed replacement temporary bridge over a river in western Russia, seen here with an Sd.Kfz. 7 towing a large load of some kind crossing it during a retreat back towards Germany sometime in the summer of 1944. Of note here is the crew member sitting on the vehicle's bonnet/hood as aircraft lookout and also the slightly damaged passenger side wing. Lastly the manufacturer's logo of this half-track can be clearly seen stamped into the radiator cover – it is the badge of Borgward.



**Above.** This Sd.Kfz. 7 that belongs to a Luftwaffe mobile flak unit is being used here as a battlefield taxi by a group of senior Luftwaffe officers on an inspection visit. Of note is the squadron badge painted on the rear of the vehicle, that was probably a badge with a white (or some other highly visible colour) original background. In an attempt to make the vehicle less obvious, the badge has been painted over, but not with Panzer Grey but some other lighter colour, probably a Dark Green. Also of interest is the winch cable that is extended slightly and has had its end looped over the rear track wheel tensioning screw rod.



**Above left.** This 1943 build pattern Sd. Kfz. 7 is making its way across a muddy field in the early autumn of 1943, near the town of Grodno, Russia. It is towing an 88 mm Flak 18 equipped with the Sd. Anh. 201 bogie system. The small truck following is a Sd. Kfz 69 (a Krupp Boxer) in turn towing a small ammunition trailer type Sd. Anh. 32, probably converted to carry 88 mm ammo.



**Left.** Taken somewhere in the valleys of the river Seine in Normandy France during June of 1940 we find pictured here an Sd Kfz 7 towing an 88mm Flak 18 and the combination is being followed by a Krupp Protze it's self towing an ammunition trailer.





Members of the crew of this Sd Kfz 7 pose proudly in front of their charge on warm summer's day in western Russia in August of 1941. Sadly I have no more information on this photo to share.



Here we see a column of German infantry being over taken by an Sd.Kfz 7 towing a heavy artillery piece deeper into central France on June 2nd 1940 of note is the white painted motorized artillery tactical symbol on the front right mud guard that is much smaller than usually seen painted on these halftracks.



Not the prescribed way to offload from a railway flatcar, this Sd.Kfz. 7 is the victim of a partisan attack that derailed the flatcar it was riding on. Whilst this type of damage was disfiguring it most often did not render the vehicle unserviceable following a quick repair. However the bodywork would rarely be restored, it no doubt looked a bit worse for wear throughout the rest of its service life.



Taken in the short Russian summer of 1942 this Sd Kfz 7 is having its Maybach HL62 TUK 6 cylinder petrol engine removed for a major service overhaul by a field maintenance work shop note that the lack of a proper engine hoist is no problem to the resourceful maintenance crew.



Just an interesting photo of a pair of Sd Kfz 7's from a maintenance/recovery unit operating in Army Group Centres area of Russia in the summer of 1942. Note that the Sd.Kfz 7 in the foreground is towing an Sd Anh 115 recovery trailer other items of note are the soldier asleep under the halftrack, the tent made from buttoned together poncho's and the Jack boot standing upright next to an unpolished boot and a wooden box with a tin of polish placed on it in the foreground.



A maintenance unit on the way to a unit repair facility in front we see an Sd.Kfz 7 with a Krupp truck in tow not the 4 wheeled towing dolly that in being towed whilst supporting the front of the Krupp truck that has no front axle and is obviously in need of major work and spares that no mobile maintenance unit would carry with them.

It is possible that this Sd.Kfz 7 is actually towing all 3 of the following trucks as on close inspection of the original image I can see a tow rope attaching truck two to the third and last truck. Sadly I have no date for this photo but from other photos in the album I would estimate it as autumn 1940 during the clean up after the war in the west was won and taken somewhere in north east Belgium or southern Holland.

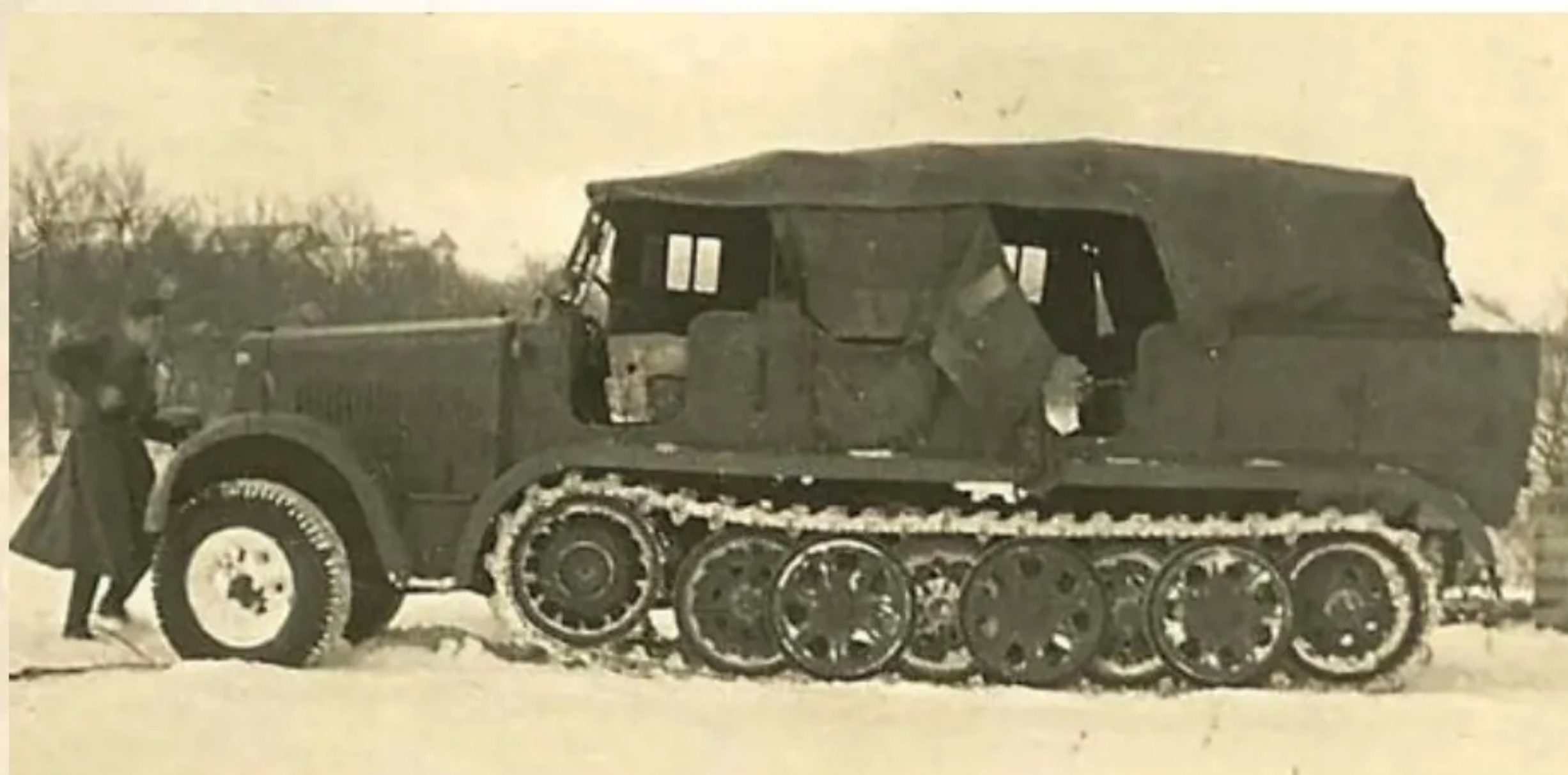




**Above.** This Artillery unit that this Sd Kfz 7 belonged to was attached to Schnelle Brigade West whilst based in Normandy France, photographed here in an apple orchard on the 23rd of June 1943. Schnelle Brigade West was renamed on the 27th of June 1943 and was given the honour of becoming the basis of the reformed 21st Panzer division.

**Above right.** Taken on route in the west coast of France this Sd.Kfz 7 is towing a small Wurzburg radar unit, the photo was taken in May 1942 sadly that all the info I have other than this Sd.Kfz 7 belonged to the Luftwaffe as shown in other photo in the series.

**Right.** Another Sd.Kfz. 7 belonging to a motorized artillery regiment on the road between Ghent and Kortrijk, Belgium, during the advance towards the Channel coast. This time however the combination of half-track and howitzer are seen stopped on the road for a short break. Note the two crew members that are having a drink of some kind and the fact that, although they are in Belgium and the country has not been fully occupied nor has it as yet surrendered, the crew have left their rifles in the vehicle's travel racks and don't appear to be feeling in any way threatened.



An Sd.Kfz. 7 11. 1937 build pattern parked up at the bottom of the hill below Koblenz barracks. Of note here is the tilt in the raised position and one canvas door cover in place and the window panel only partially fitted. It gives a good indication as to the difficulties of getting in and out of these vehicles when these cumbersome attachments were fitted.



**Above.** Photographed on one of Russia's somewhat rare at the time metalled roads this Sd Kfz 7 towing an 15cm s.FH 18 field gun is being used as a sleeping platform by its crew that were pictured taking a well-earned rest during the headlong race into Russia during September 1941. This unit was part of Army Group Centre. Sadly I have no concise date or location information.

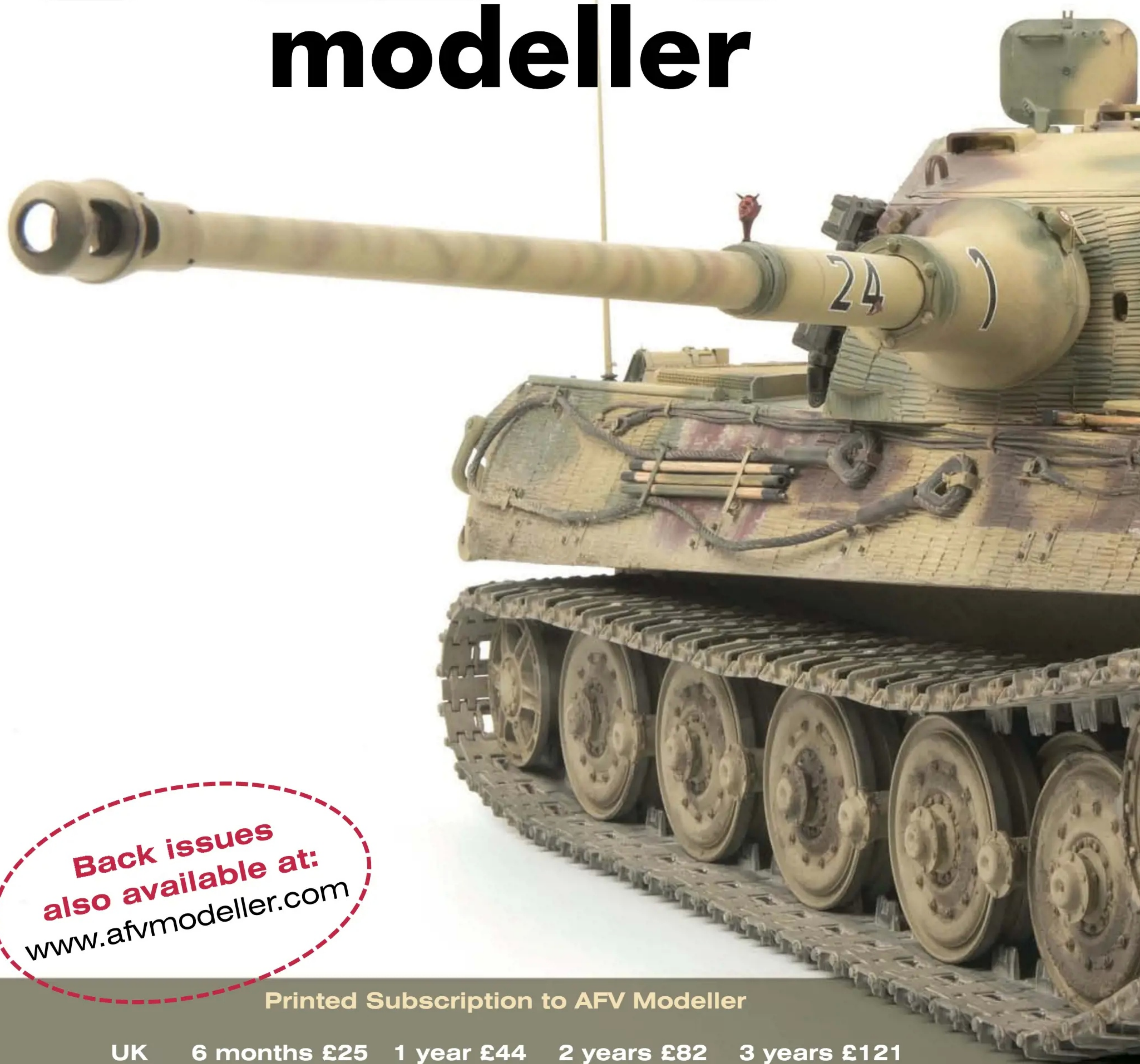
**Right.** I feel for this driver/engineer breaking down is never a good thing but breaking down in a quagmire in the middle of nowhere is definitely way down on the list of choices, however this photograph does afford us the rare opportunity to see the opened up tool compartment doors on the rear of the halftrack this photograph was taken on September the 10th 1943 just west of Pochep, Russia.



**Above.** This Luftwaffe Sd.Kfz 7 is parked in the garage area of a very roughly prepared airfield in eastern Ukraine in the late summer of 1943, a strange choice of venue for a pilot to pick for a photo to send home rather than by one of the units aircraft which by the way were Messerschmitt Bf 109's but each to their own. Note the Sd Kfz 7's right hand side louvered engine panel has been detached and is now resting on the mudguard.



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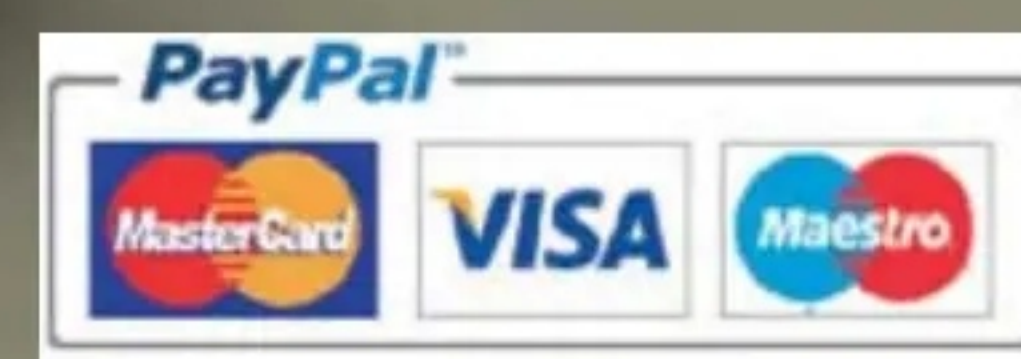
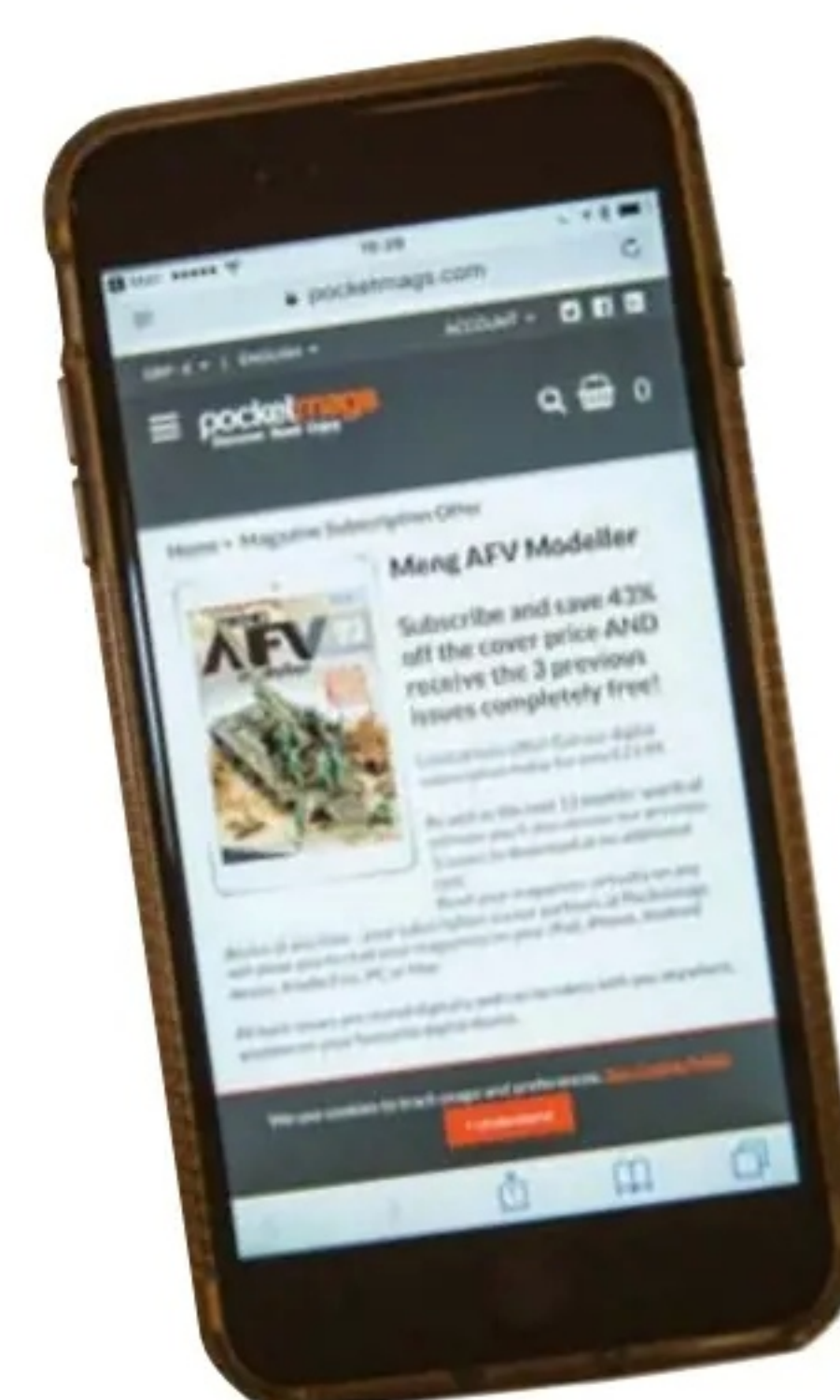


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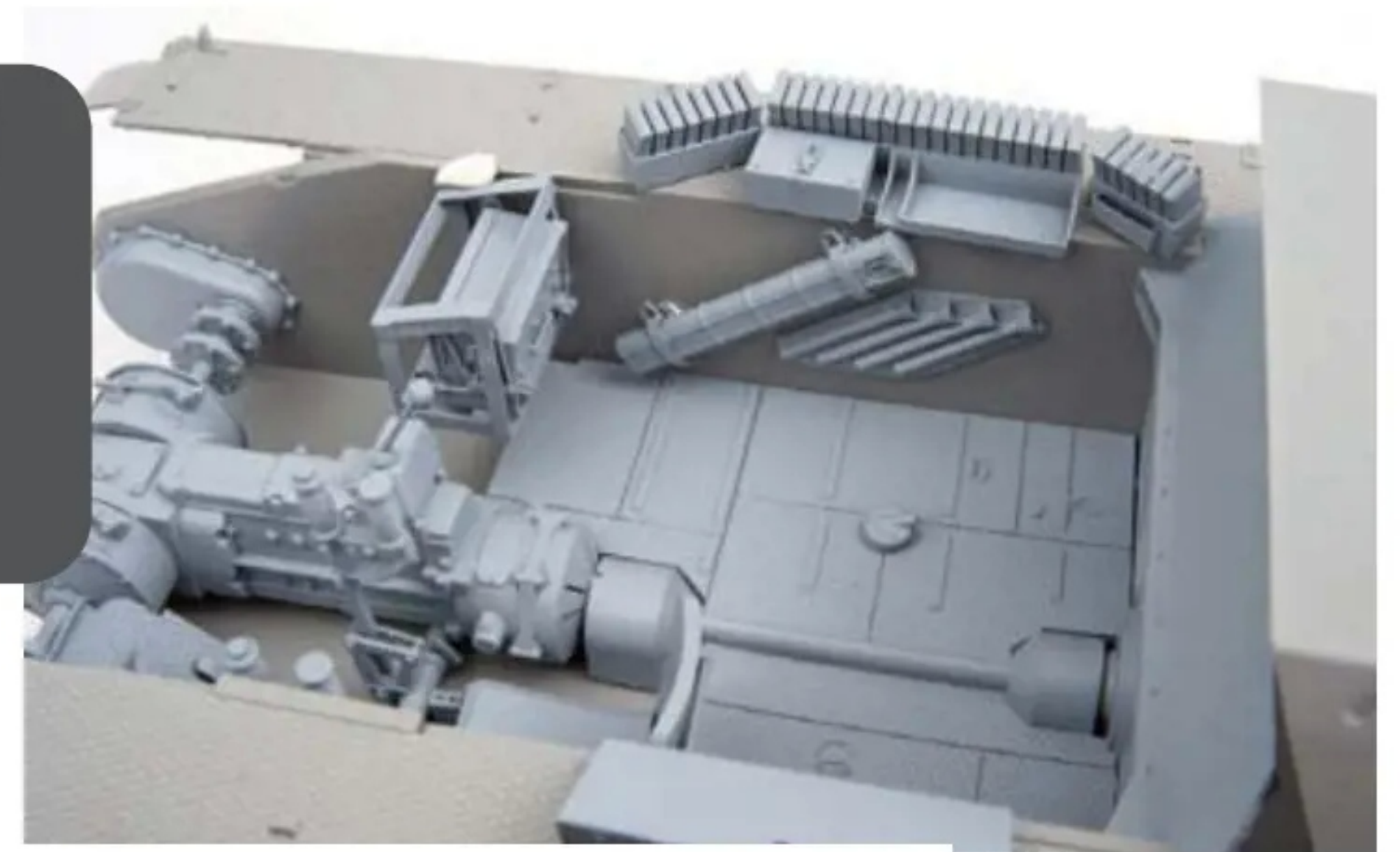
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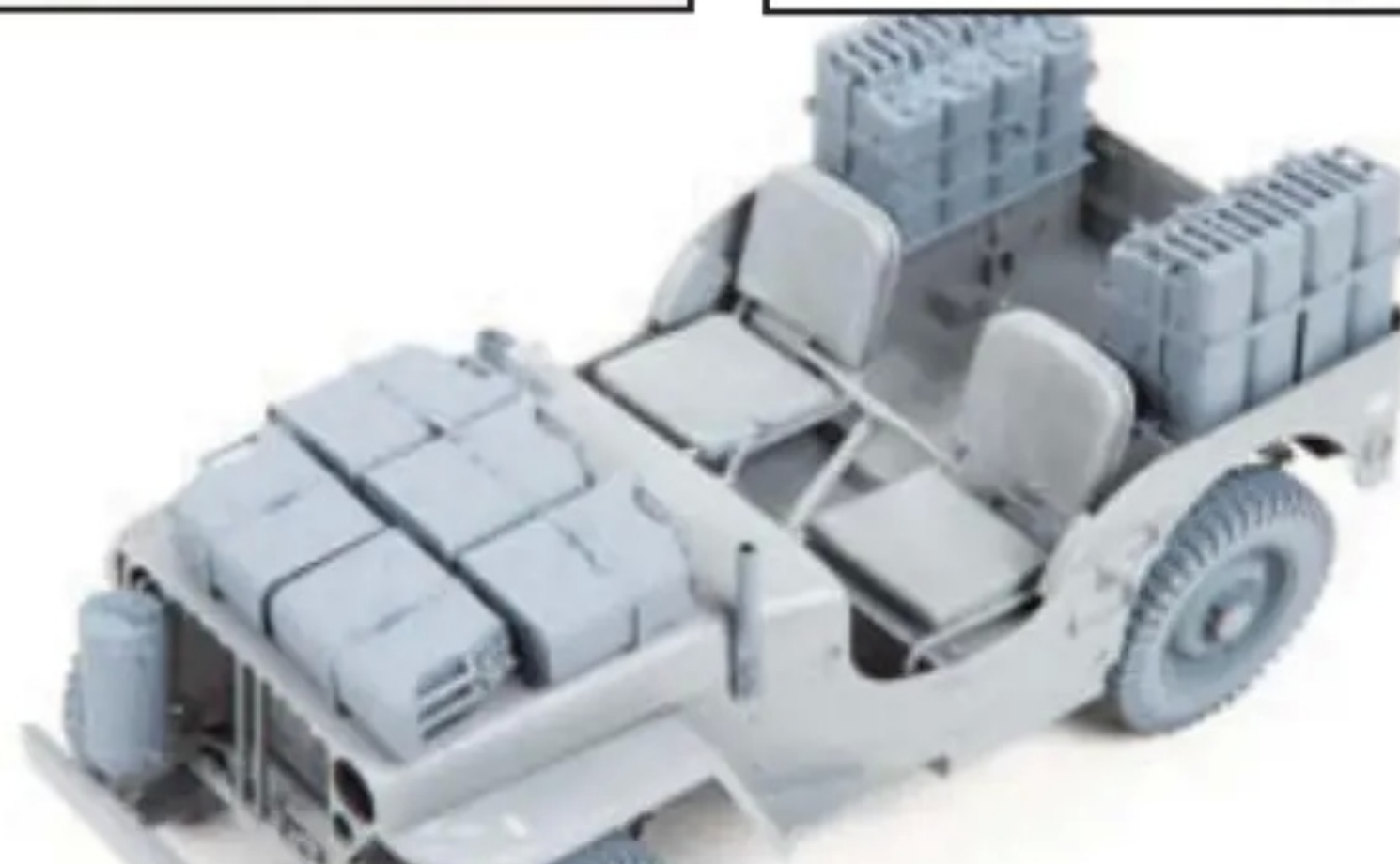


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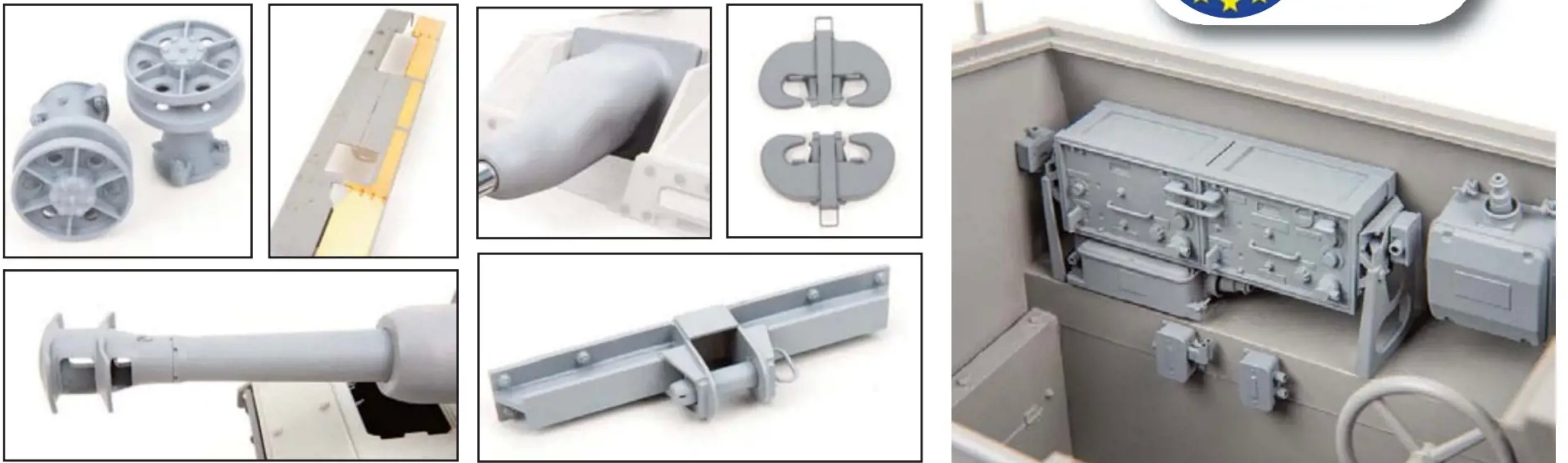


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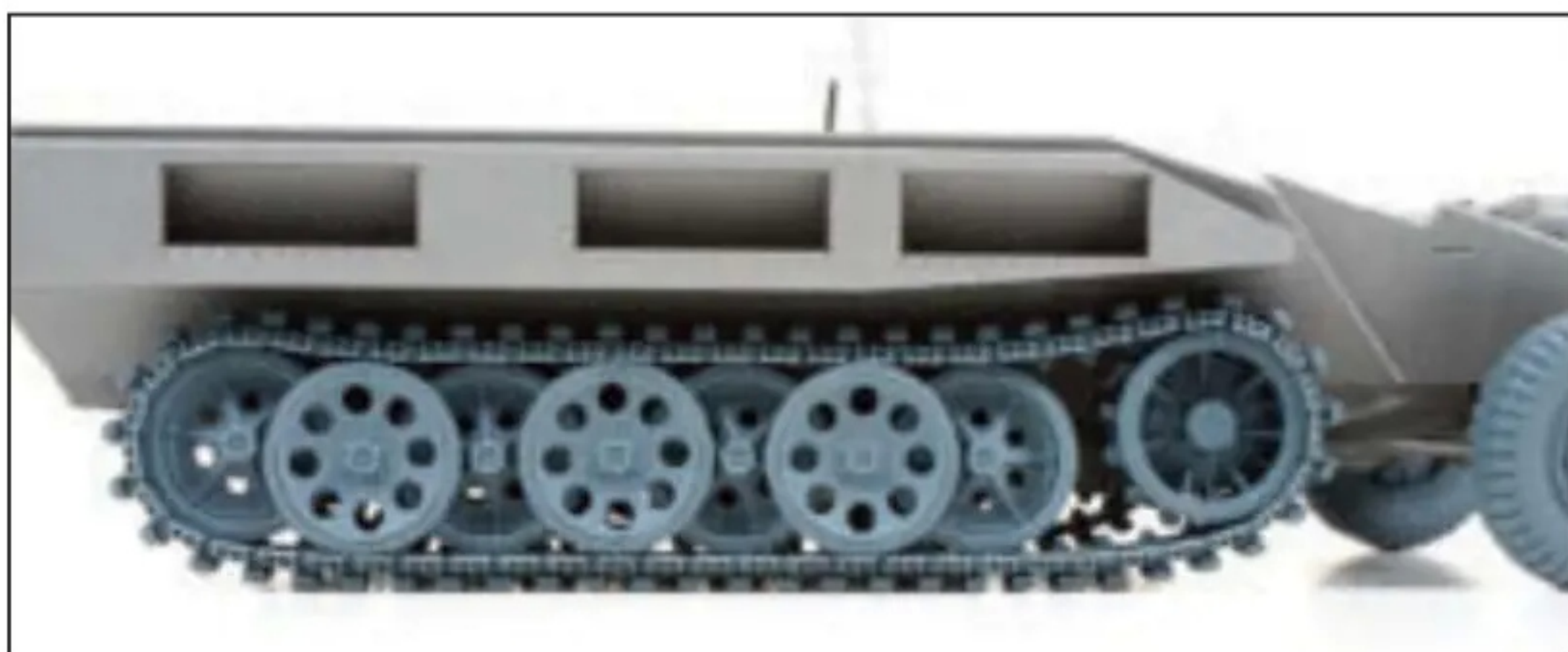
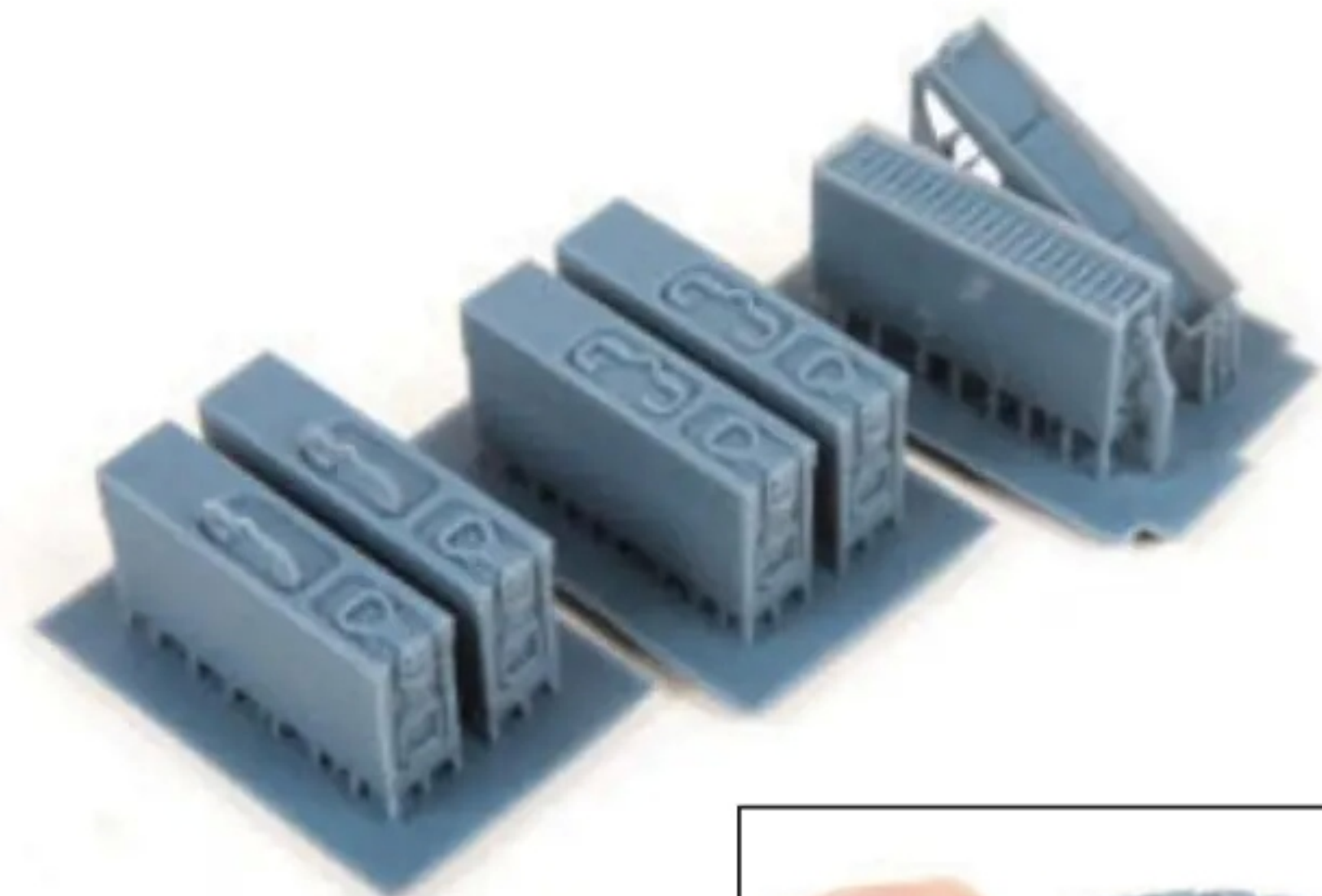
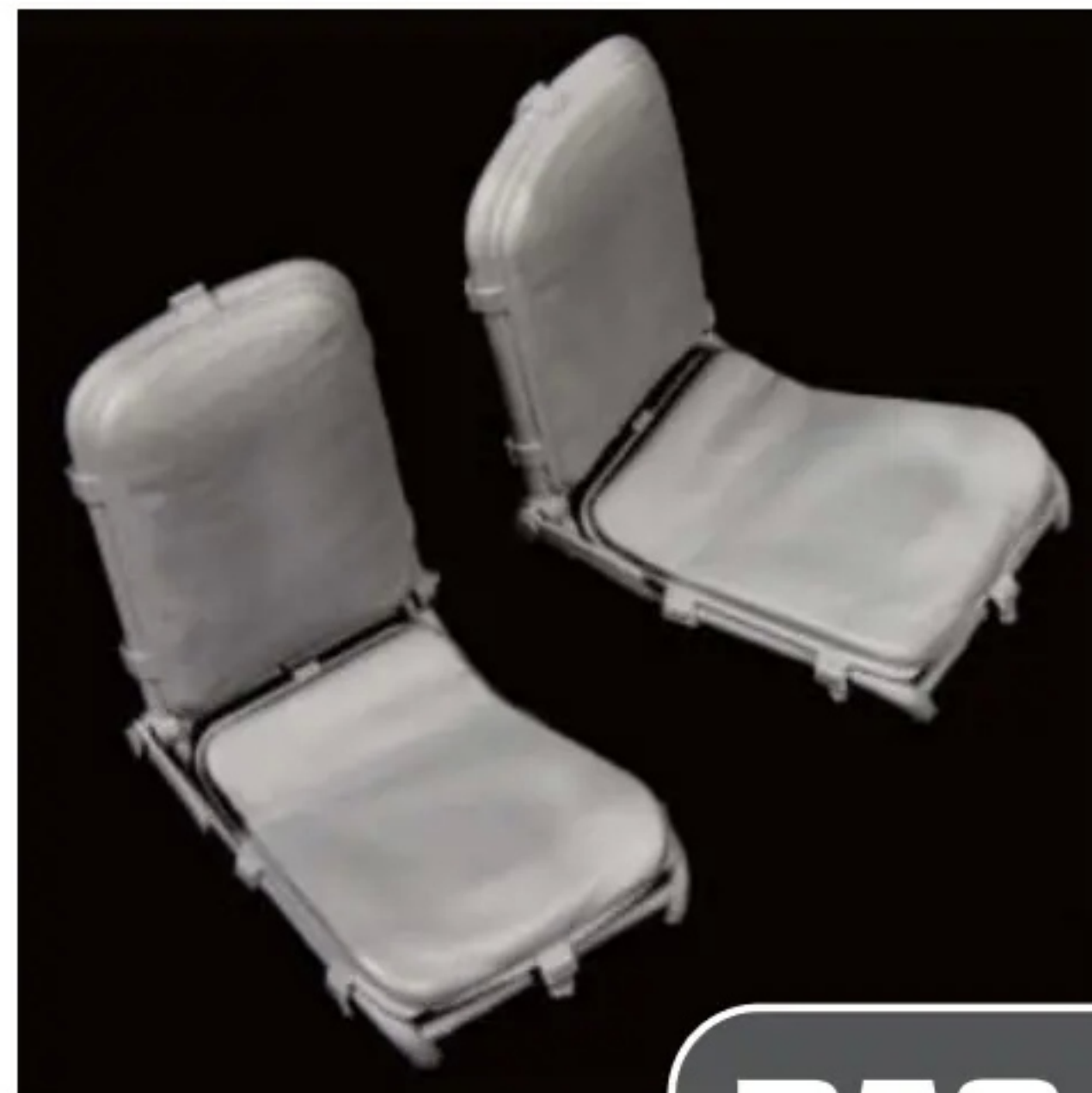
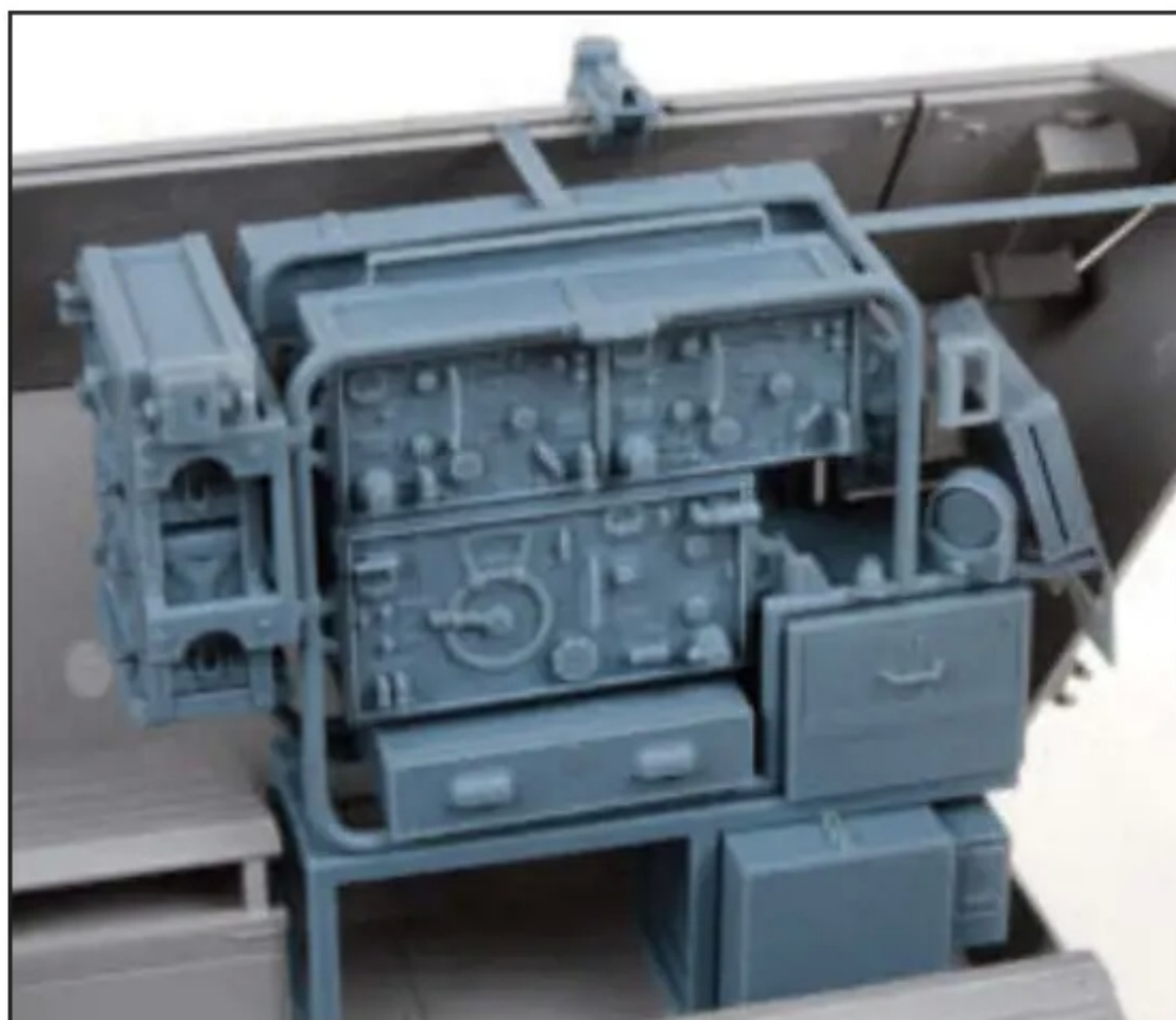
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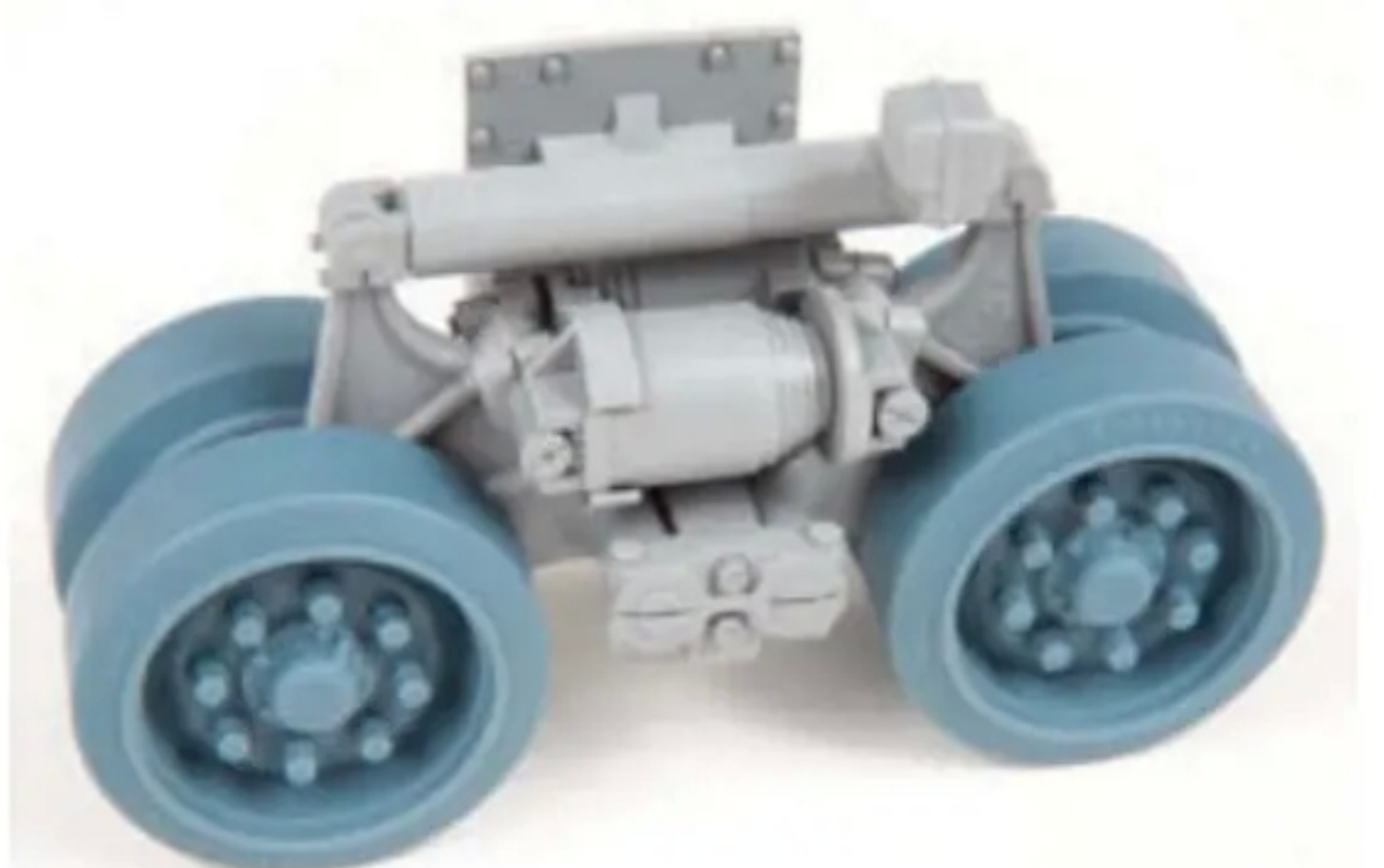
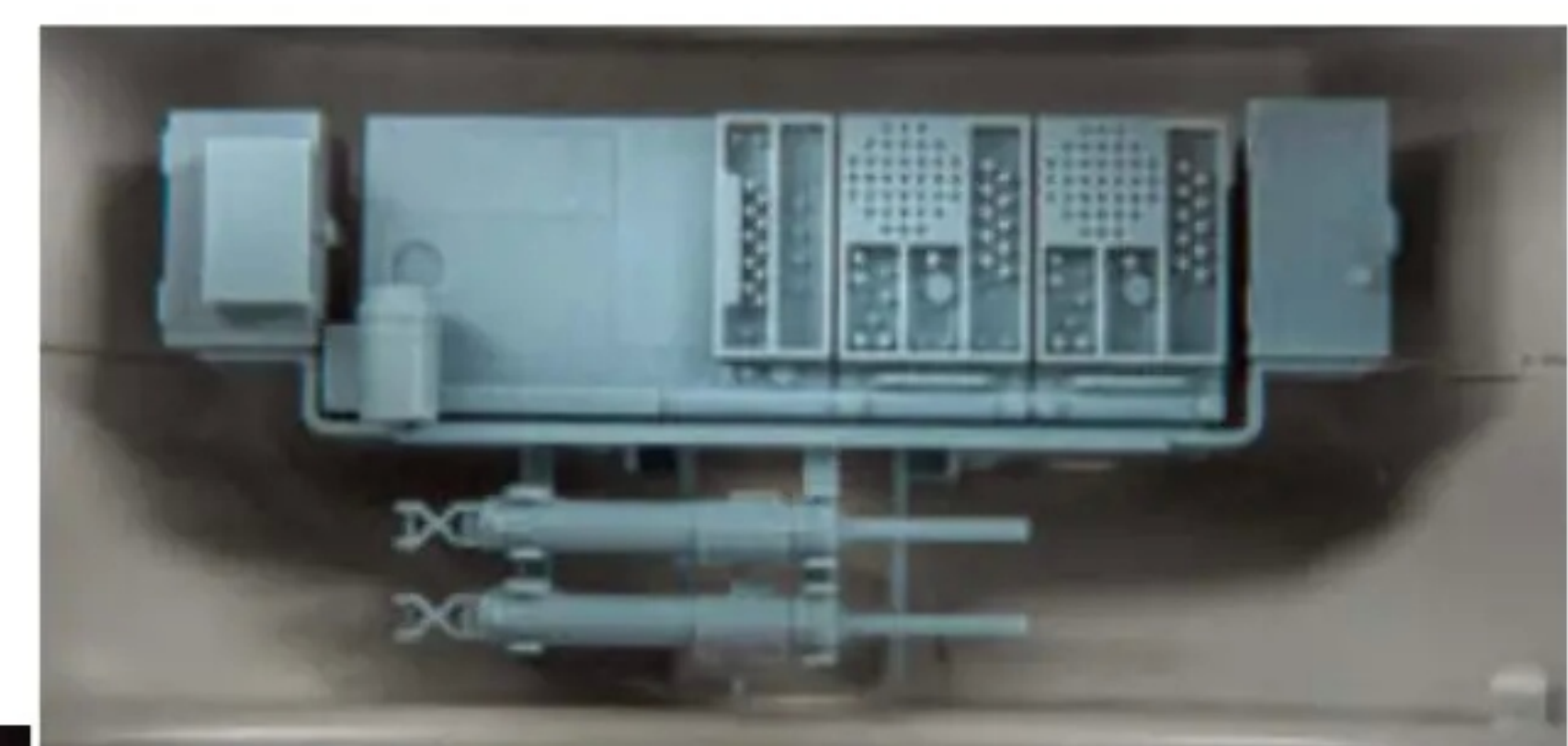
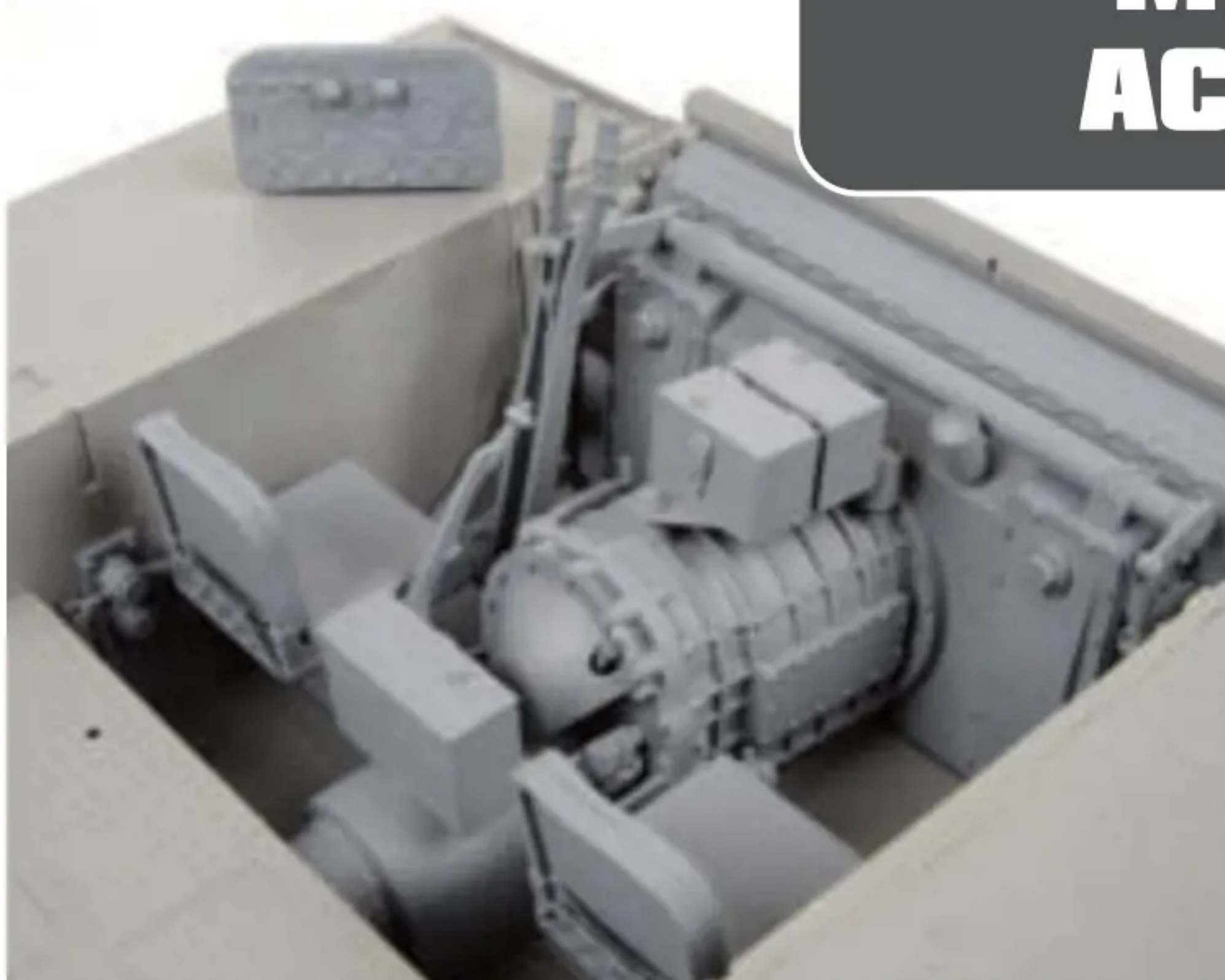


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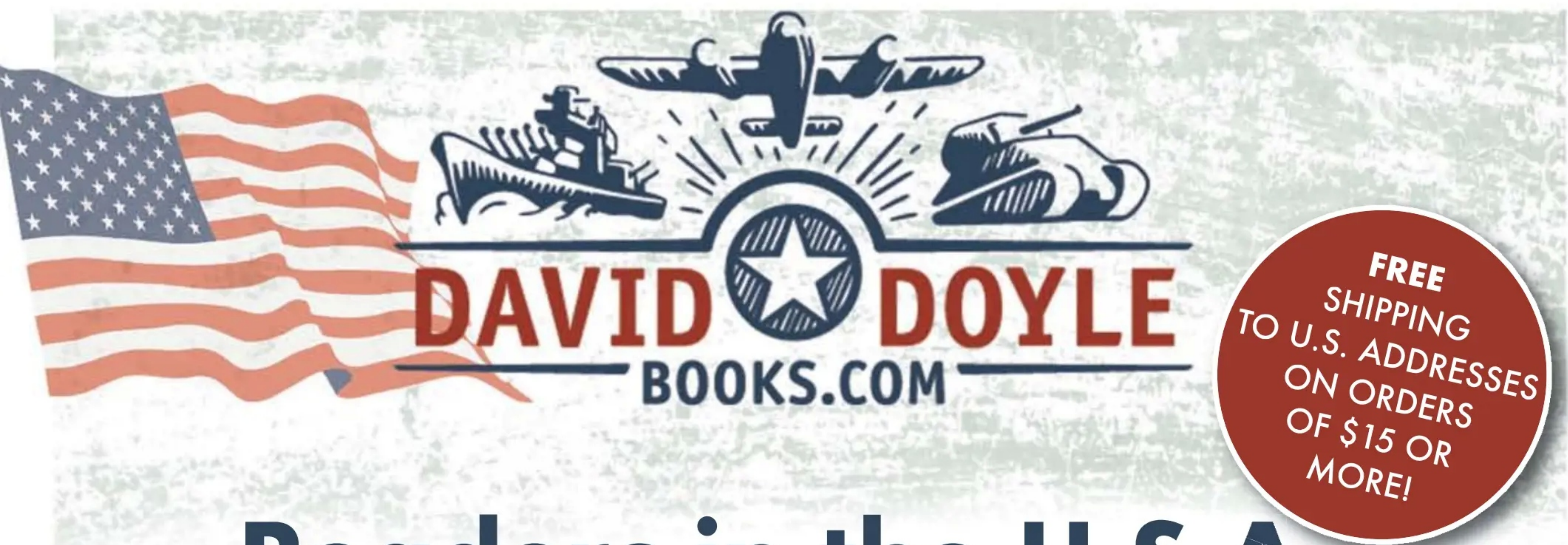
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